Curriculum and Instruction

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Program Codes:
Curriculum Studies: 20FS5129PHD
Literacy, Language, and Culture: 20FS4070PHD
Mathematics and Science Education: 20FS5357PHD

The College of Education offers work leading to the Doctor of Philosophy in Education: Curriculum and Instruction, with concentrations in (1) Curriculum Studies, (2) Literacy, Language, and Culture, and (3) Mathematics and Science Education.

Admission and Degree Requirements

• PhD in Education: Curriculum and Instruction (http://catalog.uic.edu/gcat/colleges-schools/education/ci/phd)

Curriculum and Instruction Courses

CI 400. Anthropology & Education. 3 or 4 hours.
This course uses an anthropological approach in the study of formal and informal educational processes to understand the relationship between education, culture and society as represented in ethnographic texts. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor. Recommended background: ED 100, and ED 135, and ED 205; and ANTH 100 or ANTH 101.

CI 401. Methods of Reading: Early Literacy in Urban Classrooms. 3 hours.
Exploration of literacy assessment and teaching (including decoding, early writing, spelling, oral language, and comprehension), with a focus on learning to read and write. Course Information: Previously listed as ED 257.

CI 402. Reading and Writing in the Content Areas: Intermediate Literacy in Urban Classrooms. 3 hours.
Exploration of advanced aspects of literacy instruction (e.g., comprehension, writing, literacy in the content areas), with a focus on reading and writing to learn. Course Information: Previously listed as ED 340. Prerequisite(s): CI 401 and junior standing or above and admission to the Bachelor of Arts in Elementary Education program.

CI 403. Literacy in the Disciplines: Adolescent Literacy in Urban Classrooms. 3 hours.
Exploration of using literacy in disciplinary content areas, including building prior knowledge and specialized vocabulary. Course Information: Previously listed as ED 341. Prerequisite(s): Junior standing or above and admission to the B.A. in Urban Education, Concentration in Elementary Education Program. Successful completion of CI 402.

CI 404. Teaching and Learning Mathematics in the Urban Elementary Classroom. 3 hours.
Helps prospective elementary teachers create a foundation from which they can develop an exemplary mathematics teaching practice. Course Information: Previously listed as ED 342. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Urban Education, Concentration in Elementary Education, and MATH 140 and MATH 141 or the equivalent courses.

CI 405. Teaching and Learning Science in the Urban Elementary Classroom. 3 hours.
Learning how to teach core scientific and engineering ideas, crosscutting concepts, and practices to advance student learning with a focus on community and societal relevance. Course Information: Previously listed as ED 344. Prerequisite(s): Junior standing or above; and consent of the instructor.

CI 406. Teaching and Learning Social Sciences in the Urban Elementary Classroom. 3 hours.
Models effective teaching of history and social sciences in urban classroom grades 1-6, in a way that is inclusive of diverse peoples, cultures, and histories. Students learn to teach core concepts, intellectual skills, and participatory dispositions. Course Information: Previously listed as ED 346. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Urban Education, Concentration in Elementary Education.

CI 410. Literature, Social Studies, and the Arts in the Elementary School. 4 hours.
Theory and practice in curriculum development, planning instruction, and assessing learning in elementary classrooms. Literature, social studies, and the arts content foci. Course Information: Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

CI 411. Creating Learning Environments in the Elementary School. 3 hours.
Examination of beliefs about teaching culture and learning in urban America in relation to the creation of learning environments with emphasis on application of state standards in classrooms and the development of a electronic teaching portfolio. Course Information: 30 hours of fieldwork required. Prerequisite(s): Graduate standing and CI 412. Class Schedule Information: To be properly registered, students must enroll in one Laboratory-Discussion, one Lecture-Discussion and one Practice.

CI 412. Dynamics of Learning Environments. 3 hours.
Exploration of multiculturalism and bilingualism/biculturalism in schools and families. Continued development of electronic portfolio for meeting Illinois professional teaching and technology standards. Course Information: Prerequisite(s): Graduate standing and Enrollment in M.Ed. in Elementary Education Program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory-Discussion, one Lecture-Discussion and one Practice.
CI 413. Foundations of Literacy Instruction, K-8. 4 hours.
For prospective teachers, introduction to teaching literacy K-8; examining
cognitive, social, developmental perspectives; relationships between
language and literacy; connections to school subjects; aligning
instruction, assessment, standards. Course Information: Extensive
computer use required. Word processing on writing; search engines for
examining literacy curriculum, professional organizations, email networks.
Prerequisite(s): Graduate standing.

CI 414. Middle and High School Literacy. 3 hours.
Focuses on the teaching of reading and writing strategies appropriate
for disciplinary learning and expression. Course Information: Field work
required. Prerequisite(s): Junior standing or above; and consent of the
instructor.

CI 428. Curriculum and Teaching in Secondary Education. 3 hours.
Introduction to the study of curriculum and teaching. Specifically designed
for graduate students wanting to become middle and high school
teachers, students who are newly admitted to the secondary education
program. Course Information: Credit is not given for CI 428 if the student
has credit for ED 430. Field work required. Prerequisite(s): Open only
to Master's degree students in the Secondary Education Program; and
consent of the instructor.

CI 430. Teaching Middle Grades Social Sciences: Content and
Methods. 3 hours.
Models effective teaching of history and the social sciences in the
urban elementary classroom grades 5-8, in a way that is inclusive of
the diverse peoples, cultures, and histories that make up our society.
Course Information: Prerequisite(s): Junior standing or above; or consent
of the instructor. Restricted to students in the College of Education and
Secondary History Education Program students in LAS.

CI 450. Societal Bases of Languages, Literacies and Learning. 4
hours.
Introduction to social and cultural processes by which languages and
literacies are learned and develop in and out of school within the broader
policy and ideological contexts. Course Information: Prerequisite(s):
Graduate standing.

CI 451. Foundations of Writing. 3 or 4 hours.
Introduction to writing research, theory and practice, including writing
development, processes, digital writing, pedagogy, assessment.
Combines academic study of writing theory/research with guided
inquiry into writing processes and pedagogy. Course Information: 3
undergraduate hours. 4 graduate hours. Previously listed as CI 544.
Extensive computer use required. Prerequisite(s): CI 401 and CI 402.
Recommended background: Admission to the M.Ed. in Instructional
Leadership: Literacy, Language and Learning, or the B.A. in Urban
Education program.

CI 452. Children’s and Young Adult Literature and Media. 3 or 4
hours.
Overview of trade books and media for children from preschool through
adolescence. Emphasizes critically reading, selecting, evaluating
materials appropriate for developmental stages, curricular connections,
and students in our multicultural society. Course Information: Prerequisite(s):
Graduate standing. 4 undergraduate hours. 4 graduate hours. Previously listed as CI 546.

CI 453. Digital Literacies and Learning. 4 hours.
Theoretical foundations of digital literacies and learning focusing on
critical interpretation/production involving texts, tools, and technologies
that are online, mobile, and/or networked. Includes methods for teaching
digital literacies P-12.

CI 464. Bilingualism and Literacy in a Second Language. 4 hours.
Theoretical foundations of second language acquisition and the teaching
of English as second language. Methods and materials for teaching
reading and writing in bilingual/ESL settings. Course Information: Field
work required. Class Schedule Information: To be properly registered,
students must enroll in one Lecture-Discussion and one Practice.

CI 470. Language, Culture, and Learning in Urban Classrooms. 4
hours.
An introduction to the study of multilingualism, language development,
learning, and methodologies for teaching in linguistically and culturally
diverse educational settings. Course Information: Previously listed as
ED 346. Field work required. Class Schedule Information: To be properly
registered, students must enroll in one Lecture-Discussion and one
Practice.

CI 472. Language Proficiency Assessment and ESL Instruction. 4
hours.
Study of and practicum in English language proficiency assessment;
methods, materials, and resources for assessing oral language, reading,
and writing in P-12 school settings. Course Information: Field work
required. Class Schedule Information: To be properly registered, students
must enroll in one Lecture-Discussion and one Practice.

CI 475. Teaching and Learning of the Natural Sciences. 3 hours.
Prepares teacher candidates with the knowledge, skills and dispositions
needed for teaching science in urban contexts by investigating
big questions and concepts in natural sciences education. Course
Information: Previously listed as CI 530. Field work required.
Prerequisite(s): Graduate standing; or consent of the instructor. Class
Schedule Information: To be properly registered, students must enroll in
one Lecture-Discussion and one Practice.

CI 481. Foundation and Current Issues in Educating English
Language Learners. 4 hours.
Philosophical, theoretical, socio-cultural and educational examination
of learning and achievement issues that culturally and linguistically diverse
students face in American schools. Course Information: Field work
required. Class Schedule Information: To be properly registered, students
must enroll in one Lecture-Discussion and one Practice.

CI 482. Assessment and Instruction: A Multilingual/Multicultural
Perspective. 4 hours.
Methods and materials for teaching English language learners (ELLs) in
bilingual/ESL classrooms. Emphasis upon curricular and methodological
practices, assessment for academic placement, and instruction. Course
Information: Field work required. Class Schedule Information: To be
properly registered, students must enroll in one Lecture-Discussion and one
Practice.

CI 484. Curriculum and Instruction in the Middle School. 3 hours.
Philosophy, curriculum, and instructional methods for teaching middle
grade students (grades five through eight). Content area reading is
included. Course Information: Prerequisite(s): EPSY 255 or both ED 200
and ED 210; or graduate standing and either ED 402 or ED 403, and ED
421; and approval of the of the College of Education.

CI 494. Special Topics in Curriculum and Instruction. 1-4 hours.
Exploration of an area not covered in existing course offerings. Content
varies. Course Information: May be repeated to a maximum of 12 hours.
Students may register in more than one section per term. Prerequisite(s):
Consent of the instructor.
CI 500. Proseminar in Curriculum and Instruction. 1 hour.
Research-oriented colloquia on issues in curriculum and instruction. Serves as introduction to faculty research interests. Provides opportunity to consider issues in research design. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Admission to the Ph.D. in Education program or consent of instructor.

CI 503. English Language Arts and Instruction in the Elementary School. 4 hours.
Focus on literacy instruction. Examines cultural, cognitive, linguistic, social, developmental perspectives; relationships between language and literacy; disciplinary literacies, digital literacies; aligning instruction, assessment, standards. Course Information: Prerequisite(s): CI 450.

CI 504. Secondary Literacy. 4 hours.
Focuses on the foundations of literacy and on the literacy processes of middle and secondary students and how these processes apply to reading and writing in the disciplines. Course Information: Field work required. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

CI 505. Integrated Reading and Writing Instruction. 4 hours.
Examination of the reading-writing relationship. Specific instructional strategies for teaching reading and writing together in the elementary grades. Course Information: Prerequisite(s): CI 413; or consent of the instructor.

CI 507. Teaching and Learning Mathematics in the Elementary School. 4 hours.
For prospective teachers, integrating mathematics content with teaching and learning issues, including adapting and developing curriculum, planning, classroom interactions, and assessment in K-9 classrooms. Course Information: Recommended background: Admission to M.Ed. in Instructional Leadership Concentration in Elementary Education program.

CI 508. Teaching and Learning Science in the Elementary School. 4 hours.
For prospective teachers, development of multiple frameworks for facilitating the learning of science in students of various abilities, cultures, and backgrounds. Course Information: Recommended background: Admission to M.Ed. in Instructional Leadership Concentration in Elementary Education program. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

CI 509. Reading and Writing with Young Children. 4 hours.
The early writing and reading behaviors of children and how these develop during the primary grades. Observation, teaching, and assessing are emphasized. Course Information: Prerequisite(s): ED 422; and consent of the instructor.

CI 511. Student Teaching in the Elementary Grades I. 6 hours.
Culminating course in graduate elementary teacher education. Meets Illinois State Board of Education requirements for certification. Course Information: Prerequisite(s): Completion of all professional education courses and program requirements. Must enroll concurrently in CI 512. Class Schedule Information: To be properly registered, students must enroll in one Discussion/Recitation and one Practice.

CI 512. Student Teaching in the Elementary Grades II. 6 hours.
The culminating course in the graduate elementary teacher education sequence. Meets Illinois State Board of Education requirements for certification. Course Information: Prerequisite(s): Graduate standing and concurrent registration in CI 511 required. Class Schedule Information: To be properly registered, students must enroll in one Conference and one Practice.

CI 516. Research on Mathematics Teachers and Teaching. 4 hours.
Grounds students in research on mathematics teachers and teaching, while situating the literature within the broader sociopolitical context. Course Information: Prerequisite(s): Admission to the Ph.D. in Mathematics and Science Education and graduate standing; or consent of the instructor. Recommended background: Experience in STEM (science, technology, engineering, mathematics) education.

CI 517. The Sociopolitical Context of Mathematics and Science Education. 4 hours.
Examines the sociopolitical context of mathematics and science education to understand how these domains interact with local, global, sociopolitical forces and movements. Course Information: Prerequisite(s): Admission to the Ph.D. in Mathematics and Science Education; or consent of the instructor. Recommended background: Experience in STEM (science, technology, engineering, mathematics) education.

CI 518. Race, Identity, and Agency in Mathematics and Science Education. 4 hours.
Examines research on the learning of mathematics, including: whole number concepts and operations, rational numbers and proportional reasoning, algebra, functions, geometry, probability and statistics, problem solving, and proof. Course Information: Prerequisite(s): Admission to the Ph.D. in Mathematics and Science Education and graduate standing; or consent of the instructor. Recommended background: Experience in STEM (science, technology, engineering, mathematics) education.

CI 519. Research on the Learning of Mathematics. 4 hours.
Examines research on the learning of mathematics, including: whole number concepts and operations, rational numbers and proportional reasoning, algebra, functions, geometry, probability and statistics, problem solving, and proof. Course Information: Prerequisite(s): Admission to the Ph.D. in Mathematics and Science Education and graduate standing; or consent of the instructor. Recommended background: Experience in STEM (science, technology, engineering, mathematics) education.

CI 520. The K-12 Mathematics Curriculum: Theory, Politics and Reform. 4 hours.
A look at the K-12 curriculum from three perspectives: theoretical (epistemological, learning, teaching), political (whose interests are served) and practical (implementation issues in schools). Course Information: Prerequisite(s): Consent of the instructor.

CI 525. Assessment and Instruction for Struggling Readers, K-12, Part 1. 4 hours.
Theoretical and practical issues concerning the etiology of reading problems and clinical diagnostic techniques. Children with reading problems are diagnosed and taught in the practicum component. Course Information: Prerequisite(s): CI 450; and CI 503 or CI 504; and consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

CI 526. Assessment and Instruction for Struggling Readers, K-12, Part 2. 4 hours.
Continued study of theoretical and practical issues concerning the etiology of literacy problems and clinical diagnostic and instructional techniques. Practicum involves tutoring clients in the UIC Reading Clinic. Course Information: Prerequisite(s): CI 525. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.
CI 527. Literacy Leadership. 4 hours.
Theories and practices related to the role of the literacy coach/reading specialist. Addresses data-driven strategy development; support systems for programs/personnel; curriculum design/implementation; and staff professional development in literacy.

CI 528. Assessing Language and Literacy for Instruction. 4 hours.
Study of and practicum in P-12 literacy assessment and its relation to instruction. Involves conducting and interpreting specific formal and informal literacy/language assessments and drawing implications for individualized and group instruction. Course Information: Field work required. Class Schedule Information: To be properly registered, students must enroll in one Lecture/Discussion and one Practice.

CI 529. Secondary Science Education in Urban Settings. 4 hours.
Introduction to the study of curriculum and teaching for those interested in urban education and who want to become secondary science teachers at the high school level. Course Information: 4 hours. Field work required. Recommended background: An undergraduate degree in a science field.

CI 530. The Learning and Teaching of Secondary Science in Urban Schools. 4 hours.
Prepares science teacher candidates with the knowledge, skills and dispositions needed for teaching secondary science in urban contexts. Course Information: Field experience required.

CI 531. Curriculum, Instruction, and Assessment for Equity in Secondary Science Education. 5 hours.
Developing practices of science teaching in urban secondary contexts, including understanding students and context in order to design lesson plans, differentiate instruction, enact classroom discipline, assess learning, and reflect on practices. Course Information: Field work required. Prerequisite(s): CI 529; or consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Clinical Practice.

CI 532. Literacy Instruction that Raises Achievement for All Students. 4 hours.
Study of/practicum in reading and writing instructional strategies, P-12. Addresses interventions/programs for students with literacy difficulties. Children/youth with such difficulties are assessed and taught in course practicum component. Course Information: Field work required. Prerequisite(s): Consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Clinical Practice.

CI 533. Language and Literacy Policy. 4 hours.
Introduction to key issues and policies related to language and literacy instruction, particularly in schools and with linguistically and culturally diverse students. Examination of major historical movements and policies at the national, state, and local level.

CI 534. Languages and Literacies In and Out of School. 4 hours.
Theoretical foundations of languages, literacies, and learning within, across, and outside the boundaries of classrooms and schools. Considers contexts such as online spaces, homes, community centers, workplaces, and after-school programs.

CI 535. Studies in Literacy Research and Teacher Inquiry. 4 hours.
Analysis of methodologies and topics of reading research; decision-making processes for effective literacy instruction based on research; skills and strategies in designing teacher inquiry.

CI 536. Colloquium on Literacy. 1 hour.
Various areas of reading, writing, and literacy including research on learning, instruction, and use. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours. Prerequisite(s): Enrollment in a graduate specialization in reading, and consent of the instructor.

CI 537. Internship in Instructional Leadership. 4 hours.
Practicum in leadership and administration for those interested in the study of and practice of instructional leadership. Opportunity to work with P-12. Addresses interventions/programs for students with literacy difficulties. Children/youth with such difficulties are assessed and taught in course practicum component. Course Information: Field work required. Prerequisite(s): CI 532. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Clinical Practice.

CI 538. Oral Language: Its Development and Role in the Classroom. 4 hours.
Analysis of oral language acquisition and children's varying patterns of language use; study of language development for multilingual learners; analysis of classroom talk and instructional decision-making to assess and optimize student learning. Course Information: Restricted to graduate students in education, psychology, or English.

CI 539. Improving School/District Literacy Achievement. 4 hours.
Review of research on school/factors implicated in improvement of literacy achievement. Role of empirical evidence (best practices, scientifically based research, research synthesis, beat the odds studies) in school decision making and policy. Course Information: Prerequisite(s): CI 450 and CI 503 and CI 504.

CI 540. Linguistics for Teachers. 4 hours.
Introduction to linguistic concepts as they apply to teaching in a variety of contexts monolingual and bilingual classrooms. This course is designed to provide teachers with a meta-linguistic awareness in order to facilitate learning and instruction. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

CI 541. Foundations of Writing. 4 hours.
Introduction to K-8 writing research, theory and practice, including writing development, processes, text pedagogy, assessment. Combination of academic study of writing with guided inquiry. Course Information: Computer use required [word processing on writing; search engines for examining literacy curriculum, professional organizations, email networks, use of power point and web-page composers]. Prerequisite(s): CI 450. Recommended background: Admission to the M.Ed. in Instructional Leadership: Literacy, Language and Culture.

CI 542. Educational Evaluation. 4 hours.
Examination of theoretical and operational assumptions of alternative evaluation models; analysis and critique of evaluation case-studies. Course Information: Prerequisite(s): Admission to Ph.D. in Education program.

CI 543. Children's and Adolescent Literature. 4 hours.
Overview of trade books written for children from preschool through adolescence. Emphasizes critically reading, selecting, evaluating books appropriate for developmental stages, curricular connections, and students in our multicultural society. Course Information: Prerequisite(s): CI 450 and CI 503 and CI 504; and consent of the instructor.
CI 548. Leading Improvement of Literacy Learning. 4 hours.
Leadership development to promote effective reading and writing instruction across the curriculum with particular attention paid to effective organizational and instructional strategies for PreK-12 students. Course Information: Same as EDPS 548. Prerequisite(s): Consent of the instructor.

CI 549. Critical Pedagogy: Practice and Theory. 4 hours.
Examine theory and practice of social justice teaching in schools, including: history liberatory pedagogies, culturally relevant and critical pedagogies, funds of knowledge, critical multiculturalism and anti-racist pedagogy, critical race theory. Course Information: Same as EDPS 549. Prerequisite(s): Consent of the instructor.

CI 550. Conflicts in Curriculum. 4 hours.
Analysis of theoretical models for curriculum development, special attention to alternative, and often conflicting viewpoints about the particulars of the development process. Course Information: Prerequisite(s): Admission to a graduate program in education.

CI 551. Practitioner Research in Science Contexts. 4 hours.
Introduction to practitioner research as a valid form of research, a change agent process, and lifelong professional development. Students examine practitioner research literature and methodologies and conduct their own study in science education. Course Information: Recommended background: An interest in science education and science-related field context in which to do practitioner research.

CI 552. Curriculum and Cultural Context. 4 hours.
Influence of cultural, political, sociological, and economic factors on curriculum, at the instructional, institutional, societal, and ideological levels. Course Information: Prerequisite(s): CI 574 or consent of instructor.

CI 553. History of Curriculum Thought. 4 hours.
Analysis of selected documents on curriculum theory and policy from antiquity to present; secondary treatments and primary sources; interaction of theory and practice. Course Information: Prerequisite(s): CI 574 or consent of instructor.

CI 556. Research on Children’s and Adolescent Literature. 4 hours.
Topical seminar that examines research on a specific area of children’s or adolescent literature such as multicultural literature, picture books, nonfiction texts, or the development of literacy understanding in children/adolescents. Course Information: May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of the instructor and an undergraduate or master's level survey course on children's/adolescent literature.

CI 559. The Social and Cultural Contexts of Literacy and Literacy Instruction. 4 hours.
Critical examination of theoretical and methodological orientations that inform the study of socio-cultural influences on the definition and practices of literacy in classrooms, at school level, and in out of school contexts. Course Information: Prerequisite(s): Consent of the instructor.

CI 562. Design and Conduct of Literacy Research. 4 hours.
Design principles for the study of literacy development and education. Emphasis is on examining lines of literacy research from multiple design perspectives; relationship between research design and theory and epistemology. Course Information: Field work required. Computer use required. Prerequisite(s): Consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

CI 563. Analysis of Research in Literacy. 4 hours.
Critical analyses of literacy-related research methods, their implications for interpreting research, the forms in which research is published; manuscript review process, and ethical considerations that inform all of the above. Course Information: Prerequisite(s): CI 581 or CI 586; and consent of the instructor.

CI 564. Design and Conduct of Literacy Research. 4 hours.
Introduction to design principles informing the study of literacy development and education. Emphasis on conducting literacy research from multiple design perspectives; and the relationship between epistemology, theory, and research design. Course Information: Prerequisite(s): ED 502 and ED 503 and CI 563. Priority in enrollment will be given to students admitted into Literacy, Language, and Culture doctoral program.

CI 566. Research on Science Curriculum. 4 hours.
Examines issues related to K-12 science curriculum in school classrooms and how they are related to teaching and learning science. Course Information: Prerequisite(s): Graduate standing and admission to the Math & Science Education concentration or consent of the instructor.

CI 567. Research on Science Teaching and Teacher Education. 4 hours.
Examines issues related to teaching science in and out of schools and to the preparation and development of teachers of science. Course Information: Prerequisite(s): Graduate standing and admission to the Math & Science Education concentration or consent of the instructor.

CI 568. Research in Children’s and Adolescent Literature. 4 hours.
Examines science learning especially of diverse learners in formal and informal settings. Course Information: Prerequisite(s): Admission to the Math and Science Education concentration or to the M.Ed. in Instructional Leadership?Strand B or consent of the instructor.

CI 571. Integrating Mathematics, Science, and ESL. 4 hours.
Curriculum and instructional issues and practice related to the integration of mathematics, science, and English as a Second Language development. Course Information: Prerequisite(s): CI 481 or consent of the instructor.

CI 572. Contemporary Approaches to Mathematics and Science Assessment. 4 hours.
Theory, research, practice and policy related to the assessment of student learning in mathematics and science and how such assessment can be designed to support teaching and learning in these disciplines. Course Information: Prerequisite(s): Admission to the Ph.D. in Mathematics and Science Education and graduate standing; or consent of the instructor.
CI 573. Multimodality, Multiliteracies, and Science and Mathematics Education. 4 hours.
Examines how different forms of communication influence learning and teaching of science and mathematics in formal and informal settings. Course Information: Prerequisite(s): Admission to the Math and Science Education concentration or to the M.Ed. in Instructional Leadership? Strand B; or consent of the instructor.

CI 574. Foundations of Curriculum Studies. 4 hours.
Curriculum as area of inquiry; historical, philosophical, cultural, and related foundations; variations on curriculum theory and practice; alternative paradigms of curriculum inquiry. Course Information: Prerequisite(s): ED 430 or admission to the Ph.D. in Education program or the Ph.D. in Public Policy Analysis program.

CI 575. Seminar in Research Issues with English Language Learners. 4 hours.
Selected topics on research in the education of language minority students for advanced M.Ed. and Ph.D. students. Topics vary each semester. Course Information: May be repeated to a maximum of 12 hours. Prerequisite(s): CI 481.

CI 577. Literacy In and Out of School. 4 hours.
Analysis of literacy practices in formal and informal contexts. Focus on community and family contributions to literacy learning; emphasis on consequences of cultural congruity and discontinuity between in and out of school literacy practices. Course Information: Prerequisite(s): Consent of the instructor.

CI 578. Advanced Studies in Qualitative Research Methods. 4 hours.
The dynamics of data collection and analysis, the use of theory and interdisciplinary frameworks, and writing up and presenting original research. Course Information: Prerequisite(s): ED 502.

CI 579. Bi-Literacy: Theory, Research, and Practice. 4 hours.
Theoretical foundations, research paradigms, and issues focusing on bilingual and bi-literacy practices in and between home, school and community contexts. Course Information: Prerequisite(s): Consent of the instructor.

CI 581. Perspectives on Reading: Theory, Research and Practice. 4 hours.
Introduction of doctoral students to perspectives underlying theory, research, and practices related to understanding reading and reading instruction. Study of how research and practice is framed, shaped, and constrained by theoretical perspectives. Course Information: Prerequisite(s): Priority will be given to students admitted into the Literacy, Language, and Culture doctoral program.

CI 582. Research Perspectives on Literacy in the Disciplines. 4 hours.
Literacy is an integral part of expertise in the major fields of study. This course reviews the research in literacy and its related constructs in the disciplines of mathematics, science, history, and English. Course Information: Prerequisite(s): Consent of the instructor.

CI 583. Early Literacy: Theory Research and Practice. 4 hours.
Analysis of theories and research focusing on the initial phases of young children's acquisition of reading and writing, with emphasis on issues related to instruction. Course Information: Prerequisite(s): CI 503 and consent of the instructor.

CI 584. Semiotics, Literacy, and Learning. 4 hours.
Theory and research focusing on language and literacy as they relate to other embodied forms of meaning-making; how these varied meanings are socially and culturally mediated; the ways in which they enable and constrain processes of learning. Course Information: Prerequisite(s): Consent of the instructor.

CI 585. Seminar in Literacy Studies. 4 hours.
Selected topics in literacy theory, research and practice for advanced Ph.D. students. Topics vary each semester. Course Information: May be repeated to a maximum of 12 hours. Prerequisite(s): CI 563 or the equivalent or consent of instructor.

CI 586. Perspectives on Writing Instruction: Theory, Research, and Practice. 4 hours.
An examination of research and theoretical perspectives on writing and multimodal text construction including critical reflection on perspectives that have contributed to changes in the ways we view texts, writing, writers, and instruction. Course Information: Prerequisite(s): CI 544; and consent of the instructor. Priority in enrollment will be given to students admitted into Literacy, Language, and Culture doctoral program.

CI 587. Literacy Assessment: Theory, Research, and Practice. 4 hours.
Theory and practice in literacy assessment. Measurement issues unique to literacy assessment, including word recognition, vocabulary, comprehension and writing. Critical consideration of how assessment both enables and constrains instruction. Course Information: Prerequisite(s): CI 503 and consent of the instructor.

CI 588. Literacy and Learning Technologies: Theory, Research and Practice. 4 hours.
Critical analyses of how technologically based, multimedia transform instruction with a focus on the design of strategies to enhance written, visual and oral literacies using linear and non linear software and online environments. Course Information: Prerequisite(s): Consent of the instructor.

CI 589. Alternative Paradigms of Qualitative Research in Education. 4 hours.
Methodology, cases, and rationale for action research, educational criticism, critical ethnography, historiography, and phenomenological hermeneutics as alternatives in qualitative research in education. Course Information: Prerequisite(s): CI 578 or consent of instructor; and admission to Ph.D. in Education program or Ph.D. in Public Policy Analysis program.

CI 590. Apprenticeship in Teacher Education. 1-4 hours.
Faculty guidance and supervision of doctoral students' teaching experience related to curriculum and instruction. Variable credit (1-4 hrs) given based upon scope of students' teaching responsibilities, and proposed reflection on them. Course Information: Prerequisite(s): Consent of the instructor and program coordinator.

CI 593. Ph.D. Research Project. 1-8 hours.
Students design, implement, and analyze results of a research problem in this area of specialization. Completed study is reviewed by faculty. Course Information: May be repeated to a maximum of 8 hours. Prerequisite(s): Admission to the Ph.D. in Education program.

CI 594. Special Topics in Curriculum and Instruction. 2-4 hours.
Seminar on a preannounced topic focusing on methodology, research and educational implications of recent models of learning, problem solving and thinking. Course Information: May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of instructor.
Education Courses

ED 402. Philosophy of Education and Urban School Policy. 3 hours.
Selected social and education philosophies and their impact on urban school curriculum design, school organization and control.

ED 403. Policy Issues in the History of American Education. 3 hours.
Political, economic, and cultural influences shaping the development of American education policy; emphasis on issues of education theory and practice in their historical settings.

ED 416. Practical Inquiry I: Teacher Competencies and Performance-Based Assessment. 3 hours.
Introduction to examining teaching through practitioner inquiry, including teacher performance assessment, as a way of learning to teach and beginning a lifelong process of professional development.

ED 417. Practical Inquiry II: Teacher Competencies and Performance-Based Assessment. 3 hours.
A developing examination of teaching through practitioner inquiry, including teacher performance teacher assessment, as a way of learning to teach and fostering a lifelong process of professional development.

ED 421. Advanced Educational Psychology. 3 hours.
Examines current theory and research on the teaching-learning process with particular attention to general learning and curriculum-relevant problem solving skills. Course Information: Prerequisite(s): EPSY 210; or graduate standing.

ED 422. Advanced Developmental Psychology and Educational Processes. 3 hours.
Focuses on cognitive and social development from birth to early adolescence. Examines relations between development, learning, and educational processes. Course Information: Same as PSCH 422. Prerequisite(s): PSCH 100 and any one from EPSY 210, PSCH 259, PSCH 320 and consent of the instructor; or graduate standing.

ED 424. Social and Emotional Learning: Research, Practice, and Policy. 3 or 4 hours.
Research, theory, educational practices, and federal/state policies that promote the social, emotional, and academic competence of students who are in preschool, middle school, or high school. Course Information: Same as PSCH 424. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PSCH 343 or equivalent; or consent of the instructor. Recommended background: Experience working with children or adolescents.

ED 425. Curriculum, Instruction, and Assessment in the Urban Secondary Classroom. 4 hours.
Developing professional practice that meets the diverse learning needs of students from different backgrounds and experiences. Course Information: Previously listed as ED 330. Field experience in urban schools is required. Prerequisite(s): Admission to an approved teacher licensure program in secondary education, and ED 200, ED 210 and SPED 410, and consent of the instructor and Council of Teacher Education. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 430. Curriculum and Teaching. 3 hours.
Introduction to curriculum and teaching as areas of inquiry; implications of these areas of inquiry for educational practice; related contemporary problems and issues. Course Information: Credit is not given for ED 430 if the student has credit for CI 428. Prerequisite(s): Admission to graduate study in Education, or consent of the instructor.

ED 431. Improving Learning Environments. 3 hours.
Analysis of structural, normative, and social dimensions of learning environments and their relationships to student learning. Exploration of change processes to improve those environments. Course Information: Prerequisite(s): Graduate standing or consent of the instructor.

ED 432. Instruction and Assessment in the Urban Secondary Classroom. 5 hours.
Learning to teach, how to plan for diverse learners, design differentiated instruction, assess student learning and develop classroom discipline. Course Information: Field experience in urban schools is required. Prerequisite(s): Completion of education core courses in Graduate Teacher Certification Program: Ed 402 or Ed 403 and ED 445. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 445. Adolescence and the Schools. 3 hours.
Physiological, intellectual, and social development of adolescence. Relations between aspects of adolescent development and the academic and social demands of secondary schools. Course Information: Prerequisite(s): EPSY 210, or the equivalent, or graduate standing.

ED 450. Pre-Student Teaching in the Urban Elementary Classroom, Fieldwork III: Arts, Health, and Physical Ed. 1-12 hours.
This pre-student teaching experience immerses teacher candidates in classrooms in a supervised experience of learning to teach; and develop effective practices with an emphasis in arts, health and physical education. Course Information: May be repeated. Field work required. Field work: total of 180 hours, coordinated by the program director and in collaboration with field instructors. Prerequisite(s): Senior standing or above and admission to the Bachelor of Arts in Urban Education, Concentration in Elementary Education.

ED 451. Student Teaching in the Urban Elementary Classroom: Fieldwork IV. 0-12 hours.
Student teaching is a full-time experience of learning to teach in a classroom with university mentoring and supervision. Course Information: May be repeated. Field work required. Prerequisite(s): ED 450 and admission to the Bachelor of Arts in Urban Education, Concentration in Elementary Education and senior standing. Class Schedule Information: To be properly registered, students must enroll in one Discussion and one Practice.
ED 461. Political and Socio-Cultural Perspectives on Special Education. 3 hours.
Students will examine issues of access and equity through legislation, litigation, and socio-cultural perspectives and be introduced to major theoretical frameworks that influence special education programs. Course Information: Same as SPED 461. Field work required. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 470. Educational Practice with Seminar I. 0-12 hours.
The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Course Information: Graduate credit only with approval of the college. 1 to 12 hours. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the college or department of specialization. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 471. Educational Practice with Seminar II. 0-12 hours.
The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Course Information: Graduate credit only with approval of the college. 1 to 12 hours. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in ED 470, and approval of the college or department of specialization. Class Schedule Information: To be properly registered, students must enroll in one Conference and one Practice.

ED 472. Promoting Academic and Prosocial Behavior I. 3 hours.
The importance of school-wide and classroom structure and climate in the educational process. Strategies to promote academic success and desired social behavior. Course Information: Same as SPED 472. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.

ED 473. Teaching Math and Science with Adaptations. 3 hours.
Provides prospective teachers with assessment strategies and a range of adaptations, modifications, and interventions in math and science for students with disabilities. Course Information: Same as SPED 473. Field work required. Prerequisite(s): SPED 461. Course Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 474. Teaching Math and Science with Adaptations II. 3 hours.
Continues the instruction in teaching math and science with adaptations and modifications. Emphasis will be placed on individual student needs. Course Information: Same as SPED 474. Field work required. Prerequisite(s): SPED 461. Course Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 500. Philosophical Foundations of Educational Inquiry. 4 hours.
Philosophical foundations of various forms of educational inquiry. Epistemological and ethical dimensions of different research approaches. Course Information: Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.

ED 501. Data and Interpretation in Educational Inquiry. 4 hours.
Data, interpretation, reliability, validity, accuracy, stability, and generalizability from different methodological perspectives; how research design, data collection, and interpretation vary with different philosophical approaches. Course Information: Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.

ED 502. Essentials of Qualitative Inquiry in Education. 4 hours.
Surveys methods for conceptualizing, gathering, managing, and interpreting qualitative data. Various ethnographic, historical, and narrative forms of inquiry are reviewed, as are the corresponding methods associated with each. Course Information: Extensive computer use required. Field work required. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.

ED 503. Essentials of Quantitative Inquiry in Education. 4 hours.
Introduces theory and assumptions behind parametric statistics. Also provides hands-on experience in conducting basic quantitative research (t-test, correlation, regression, analysis of variance). Course Information: Same as EPSY 503. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.

ED 504. Urban Contexts and Educational Research. 4 hours.
A multidisciplinary approach for understanding research on learners and learning, schools and schooling, families, and communities in urban contexts. Course Information: Extensive computer use required. Prerequisite(s): Admission to one of the PhD programs in the College of Education or consent of the instructor.

ED 505. Introduction to Educational Research: Paradigms and Processes. 4 hours.
Offers a survey introduction to the history, contexts, paradigms and orientations, ethics, and processes of educational research. Course Information: Extensive computer use required. Prerequisite(s): ED 505 and admission to one of the PhD programs in the College of Education or consent of the instructor.

ED 506. Introduction to Educational Research: Designs and Analyses. 4 hours.
Offers researchers an introduction to research in the field of education. It is the second of a two-course sequence and will introduce students to different types of research designs and analyses in the field of education. Course Information: Extensive computer use required. Prerequisite(s): ED 490 or ED 505 or CIE 578; and consent of the instructor.

ED 543. Research on Teaching. 4 hours.
Review and analysis of history, paradigms, methods, and findings of research on teaching. Focus on the development of research questions and strategy. Course Information: Prerequisite(s): ED 490 or ED 503 or CIE 578; and consent of the instructor.

ED 544. Research on Teaching: Quantitative Approaches. 4 hours.
Provides in-depth coverage of major methods of quantitative analysis. Course Information: Prerequisite(s): ED 543 and consent of the instructor.

ED 545. Research on Teaching: Qualitative Approaches. 4 hours.
Provides in-depth coverage of major methods of qualitative analysis. Course Information: Prerequisite(s): ED 543 and consent of the instructor.

ED 546. Research on Teaching: Ethnography, Interpretive Research, and Case Study. 4 hours.
Examination of the central issues, approaches, and methods of ethnographic research. Course Information: Prerequisite(s): ED 543 and consent of the instructor.

ED 547. Research on Teaching: Action Research. 4 hours.
Course focuses on the role of the researcher as a participant in the action research cycle. Course Information: Prerequisite(s): ED 543 and consent of the instructor.

ED 548. Research on Teaching: Critical Race Theory. 4 hours.
Introduces students to critical race theory and its application to the study of education. Course Information: Prerequisite(s): ED 543 and consent of the instructor.

ED 549. Research on Teaching: Gender and Education. 4 hours.
Course focuses on gender and education. Course Information: Prerequisite(s): ED 543 and consent of the instructor.

ED 550. Colloquium on Diversity in Secondary Education. 2 hours.
Designed to provide candidates with opportunities to interact with experts who deal with various issues of diversity in education, to discuss those issues with their cohorts, and to explore ways of meeting students' diverse needs. Course Information: Satisfactory/Unsatisfactory grading only.

ED 593. Independent Study. 1-4 hours.
Students independently study related topics not covered by course, under faculty supervision. Course Information: May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the advisor.