

Doctoral Program in Reading Science

Prerequisite Course Descriptions: All Currently Part of the Reading Science MA Degree—All students would need these or courses/experiences equivalent to these.

RDG 505: The Psychology of Reading

This course examines the psychological substructure of reading. Neural, perceptual, cognitive, and linguistic processes involved in reading development and disorders are addressed. Emphasis is placed on understanding how readers extract information from the printed page and how they comprehend text. Current research findings are discussed and considered in the context of evidence-based practice in reading instruction.

RDG 540: Fluency and Comprehension

This course is designed to teach how to implement research-based instructional practices to build children's fluency and comprehension skills. Participants learn the key research findings for teaching fluency, vocabulary, and comprehension; understand how to evaluate and improve current instructional practices; and acquire specific research based instructional strategies and interventions to develop fluency, vocabulary, and comprehension skills.

RDG530: Phonics and Linguistics

This course teaches the fundamental principles and concepts of the structure of language. Students learn the sound-symbol correspondences of language and understand the relationship of phonemic awareness and the phonological system of language to the reading process. Students also study the linguistic and cognitive bases of reading.

RDG 538: Diagnosis and Remediation of Reading Problems

This course addresses the use of formal and informal assessment procedures used to design robust reading instruction/intervention for children in preschool through high school. This course serves as a specialized, advanced training in assessment, diagnosis and the remediation of reading problems.

RDG 591: Evidence Based Practicum 1 (Orton Gillingham Training)

In this course, students implement a research based intervention to an individual who is struggling with early reading skills. Emphasis is placed on the instructional strategies appropriate for use in effective intervention design and implementation. This practicum course includes three components: 1) learning the Orton-Gillingham method of reading intervention, 2) completion of tutoring hours and 3) supervision.

Leadership & Systems Change –3 hours

***EDU 710: Leadership and Systems Change**

This course is a study of leadership and systems change. Students will explore what leadership is, characteristics of effective leaders, and reflect upon their own skills, knowledge, and disposition as leaders. Emphasis will be placed on understanding how to lead systems change to create inclusive educational environments for all students.

Research and Statistics—12 hours

RDG 700: Introduction to Research Design and Statistics--3 hours

Introduction to Research Design & Statistics provides understanding of how to improve study design, collect and analyze data, and promote reproducible research. It includes a detailed overview of scientific inquiry, examples of various research designs, a discussion of data management methods, and an introduction to statistical analysis. Dissertation requirements and methodology will be outlined.

RDG 701: Intermediate Research Design and Statistics--3 hours

Intermediate Statistics explores statistical analysis and sound approaches to optimize the reproducibility of research results. Topics discussed include displaying and describing data, the normal curve, regression, probability, statistical inference, confidence intervals, and hypothesis tests with applications in the real world.

EDU 702: Behavior Research and Accountability Methods--3 hours

Behavioral Research and Accountability Methods provides an overview of single-case design procedures for use in academic intervention research and practice. The course presents a number of behavioral research designs that can be applied to reading intervention research in school settings and can be used in the program's dissertation. The course is designed to cultivate the ability to critically review research studies so that graduate students can become active producers and/or consumers of research.

EDU 703: Program Evaluation--3 hours

This course is a study of the methods and tools used in program evaluation. Students further their understanding of how to interpret data for educational decision-making and learn how to design and implement effective program evaluations. The course prepares students to conduct program evaluations in schools and presents a methodology that can be used in the program's dissertation.

Language and Reading- 27 hours

RDG 740: Cognitive and Neurological Psychology's Contributions to Understanding Reading and Learning--3 hours

This course reviews seminal research in the science of reading and deeply explores research contributions from cognitive psychology and neurological psychology. Topics include understanding skilled reading, reading development, brain bases of reading (parts of the brain involved in reading, how the brain processes reading, four part processor model, etc.), anatomical and functional neuroimaging techniques, the causes of developmental reading impairments and how such impairments can be treated. The research will be discussed in light of its applications for teaching and instruction.

RDG 745: Linguistics--3 hours

The purpose of this course is to increase awareness and understanding of the complex organization and systematic nature of language. The focus is on the major core subfields of linguistics: orthography, phonetics, phonology, morphology, syntax, semantics, discourse and pragmatics. The course is intended to clarify these forms and functions of language in order to apply this disciplinary knowledge base to instruction.

RDG 750: Language Development: Research and Practice--3 hours

This course examines the research on language acquisition. It starts with an overview of first language acquisition, with an in-depth examination of the components of language development and their relationship to reading and writing. It then covers second language acquisition, and effective instruction and assessment of English Language Learners.

RDG 755: Learning Disabilities--3 hours

This course reviews the research on learning disabilities and its implications for practice, systems' change, and policy. Key topics include: history of learning disabilities, understanding laws and key policies, symptoms and characteristics of dyslexia and related learning disabilities, implications for screening, diagnosis, and intervention design.

RDG 760: Multi-Tiered Systems of Support--3 hours

This course covers advanced topics in educational assessment and intervention design within a Multi-Tiered Systems of Support (MTSS) model. Coursework includes the study of criterion referenced and

norm referenced assessments at both the systems and individual child level. Students evaluate assessments based on the technical adequacy of individual assessment's designed purpose, analyze assessment results, and understand implications for systems change and individual child educational planning.

RDG 762: Testing, Evaluation, and Intervention Design—Reading Clinic--3 hours

This course involves the study of criterion referenced and norm referenced assessments at the individual child level. Coursework includes the administration and interpretation of clinical reading assessments to individuals with suspected reading concerns. Students work with a supervisor to choose, administer, and interpret assessments and then write an assessment report and create intervention plans. Plans are shared with the individual's caregivers and educational team. This clinic occurs during the doctoral program's summer institute.

RDG 765: Teaching and Evaluating PreK-12 Writing--3 hours

This course examines seminal research regarding the teaching and evaluation of Pre-Kindergarten through 12th grade writing. Evidence based instructional practices are explored along with interventions that will enhance writing outcomes for a variety of students within diverse contexts.

RDG 775: Clinical Practice 1—Supervision & Teaching in Higher Education--3 hours

The practicum experience provides the opportunity to apply and integrate knowledge acquired through the core program. Students will perform activities related to the expectations of individuals with terminal degrees and extensive understanding of literacy and learning. These activities include supervision of explicit, sequential instruction, preparation and presentation of a literacy topic and the teaching of a master's level class.

RDG 770a/b/c: Special Topics (a = first year; b = 2nd year; c = 3rd year) – Each 3 hours (See below)

Special topics courses (a, b, and c) are offered each summer. The hybrid format of these classes requires some online work along with face-to-face work at the on-campus institute. The mandatory on campus one to two week institute requires:

- a.) online preparation work related to the special topic to prepare for the summer institute
- b.) participation in seminar class meetings connected to the special topic
- c.) attendance at on-campus lectures of Reading Science experts
- d.) participation in presentations by Reading Science faculty and doctoral students
- e.) participation in collaborative discussion opportunities with peers
- f.) participation in the institute's book study (a new Reading Science book is chosen each summer).

RDG 770a: Foundations of the Science of Reading Seminar--3 hours

In this seminar students are oriented to the doctoral program, discuss program expectations, examine seminal research in the field and develop a model of practice guided by the science of reading.

RDG 770b: Advancing the Science of Reading in Educational Practice Seminar--3 hours

This seminar further develops students' leadership and presentation skills. The seminar also prepares students to choose their dissertation topics.

RDG 770c: Preparing for Teaching and Supervision in Higher Education--3 hours

This seminar deepens students' teaching and supervision skills for work within higher education institutions.

Dissertation Guidance – 12 hours

EDU 801: Dissertation Seminar – 3 hours

This course clarifies and supports the development of the dissertation proposal to facilitate timely and successful completion of the dissertation. The course reviews the dissertation process, including requirements, procedures, timelines, and research topics.

EDU 805: Dissertation Guidance – Repeated course, 3 hours (maximum of 9 hours)

The purpose of these graduate hours is to provide coaching and support for doctoral students as they implement their research projects and write their corresponding dissertation. Students will produce their scholarly research and writing under the direction of members of the Reading Science Faculty.