

PROGRAM OF STUDY RATIONALE

GOAL STATEMENT

My program of study is designed to develop comprehensive expertise in Learning Technologies Design Research LTDR: with a supporting specialization in Cognitively Accessible Instructional Design to create a unified neurocognitive-embracing educational design framework that bridges cognitive accessibility gaps through AI support for neurodivergent learners, particularly those with ADHD and autism.

COURSE ALIGNMENT AND RATIONALE

Research Methods Foundation (18 credits)

The comprehensive research methods sequence provides the methodological rigor essential for my interdisciplinary research approach:

- EDRS 810-812 establish foundational competencies in quantitative, qualitative, and mixed methods research that directly supports my ability to conduct rigorous studies on neurodivergent learning experiences
- EDRS 821-822 advanced applications courses enable sophisticated analysis of complex learning data and in-depth exploration of neurodivergent learner experiences
- EDRS 824 mixed methods integration is particularly crucial for my research given an understanding neurodivergent learning requires both quantitative measures of learning outcomes and qualitative insights into learner experiences

Primary Specialization: Learning Technologies Design Research (21 credits)

This specialization directly addresses my core research interests at the intersection of cognitive psychology, neurodivergence, and digital learning:

- **Design and Cognition Foundation:**
 - EDIT 801 Nature and Process of Design: provides theoretical grounding in design thinking essential for creating inclusive instructional frameworks
 - EDIT 802 Cognition and Technology: offers critical multidisciplinary perspectives on how technology interfaces with cognitive processes, which is fundamental to understanding neurodivergent learning needs

- **Research and Innovation Focus:**
 - EDIT 803 Design-Based Research: aligns with research methodology interests and supports the ability to conduct iterative design research with neurodivergent populations
 - EDIT 895 Emerging Trends: examines current technological advances that could benefit neurodivergent learners
- **AI Integration Sequence:**
 - EDIT 891 AI Approaches to Learning Gaps: directly targets my research focus on addressing learning disparities through AI within instructional design
 - EDIT 891 AI Approaches to Course Design: provides tools for creating adaptive, personalized instruction through AI within curriculum design
 - EDIT 891 AI Approaches to Learner-Centered Design: emphasizes individualization crucial for neurodivergent learners

Secondary Specialization: Cognitively Accessible Instructional Design (9 credits)

This supporting area provides essential psychological and cognitive foundations:

- AIT 790 AI in Education: bridges the emergence of AI technology and education, which supports my goal of exploring AI-enhanced digital learning environments
- EDEP 820 Teaching, Learning, and Cognition: offers deep understanding of cognitive processes essential for designing neuro-informed instructional design
- EDEP 822 Advanced Learning, Motivation, and Self-Regulation: directly addresses executive function challenges common in ADHD and autism

Master's Degree Integration (9 credits)

My previous coursework in Learning, Design, and Technology (LDT) from Penn State University creates a strong foundation for my doctoral program:

- LDT 527 Constructivist Learning Environments: aligns with evidence-based approaches for digital learning environments
- LDT 581 Theoretical Foundations: provides essential learning theory background
- LDT 832 E-Learning Design: offers practical digital design experience

DEMONSTRATED CONGRUENCE

This program of study demonstrates a strong alignment between my research goals and coursework selection through four key areas:

1. Research-Practice Integration: The combination of rigorous methods training with specialized design research courses enables the ability to conduct high-quality studies while developing practical solutions
2. Interdisciplinary Approach: Courses span education, psychology, technology, and AI, which matches the interdisciplinary research interests in cognitive psychology, neurodivergence, and digital learning
3. Neurodivergent Focus: The emphasis on cognition, self-regulation, learning gaps, and learner-centered design directly supports research on ADHD and autism populations
4. Practical Impact: The program balances theoretical understanding with applied design skills and supports my goal of creating implementable frameworks for digital learning environments

Together, these courses create an 81-credit program that provides comprehensive preparation for conducting meaningful research at the intersection of instructional design, AI, and cognitive accessibility while developing the expertise needed to bring my vision of a unified neuro-embracing educational design framework for instructional design to fruition.