**PhD Program Area of Study (PAS) in Learning, Design, and Technology (LD&T)**

**Department of Teacher Education and Learning Sciences (TELS)**

**Total Credit Hours = 60** (minimum)

**College Core Courses minimum of 21 hours**

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| **Scholar Leader Required Courses** | 6 hours |
| Scholar Leader 1*:* Diversity and Equity in Schools and Communities | 3 |
| Scholar Leader 2: Systemic Change in Education and Society | 3 |
| **College Research Methods** | 15 hours |
| ED 710: Applied Quantitative Methods in Education, or its equivalent | 3 |
| ED 730:  Introduction to Qualitative Research in Education, or its equivalent | 3 |
| ED 711: Applied Quantitative Methods in Education II OR ED 731: Advanced Qualitative Research and Data Analysis in Education OR ED 750: Mixed Methods Research in Education | 3 |
| Two more advanced research methods courses taken from the following: * ED 711 Applied Quantitative Methods in Education II
* ED 731 Advanced Qualitative Research and Data Analysis in Education
* ED 750 Mixed Methods Research in Education
* ED 712 Survey Methods in Educational Research
* ED 795 Special Topics in Education Research
* Courses in the Department of Statistics or Psychology at the 500 level or above
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**Department Core Seminars minimum of 6 hours**

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| **Teacher Education and Learning Sciences (TELS) Required Seminars**  | 6 hours |
| ECI 709: Special Problems, Seminar in Teacher Education | 3 |
| ECI 709: Special Problems, Seminar in Learning Sciences | 3 |

**Learning, Design, and Technology (LD&T) Courses minimum of 24 hours**

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| **LD&T Learning Theories and Processes Strand: (choose \*ECI 716--required, and 1 other)** | 6 hours |
| ECI 517 Theoretical Foundations of Advanced Learning EnvironmentsECI 700 Curriculum Theory and DevelopmentECI 716 Design & Evaluation of Instructional Materials\*ECI 719 Special Problems LD&T: Comp-Supp Collab Lrng: Theories, Models & ProcessesECI 719 Special Problems LD&T: Informal After-School Technology EnvironmentsEDP 704 Theories and Research in Educational PsychologyEDP 723 Motivation in EducationPSY 710 Cognition and Learning Technologies | 6 |

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| **LD&T Specialization Areas: (choose 1 specialization area, 3-4 courses, or consult with advisor on mixing across specializations†)** | 12 hours |
| *Distance Learning*ECI 719 Special Problems LD&T: Teaching & Learning at a DistanceECI 515 Online Collaborations in EducationEAC 539 Teaching in the Online Environment*Game/Educational Software Design*ECI 719 Special Problems LD&T: Game-Based LearningECI 719 Special Problems LD&T: Modeling, Simulation, & Games for Complex Problem SolvingEAC 595 Special Topics: Game-Based Learning DesignECI 519/CSC 591 Special Topics in CS: Serious GamesCSC 591 Special Topics in CS: Machine Learning for User-Adaptive Systems*Digital Media Design for Learning*ECI 513 Teaching and Learning with Digital VideoECI 514 Multimedia Design & Apps in InstructionECI 512 Emerging Technologies for Teaching & Learning--Mobile Learning*Technology in the Disciplines*EMS 573 Technology Tools for Science TeachingEMS 580 Teaching Mathematics with TechnologyEMS 581 Advanced Applications of Technology in Mathematics EducationECI 519 Integrating Writing and TechnologyECI 546 New Literacies and MediaFL 506 Instructional Technology in Foreign Language Education*Instructional Design/Training*EAC 580 Designing Instructional Systems in Training & DevelopmentEAC 581 Advanced Instructional Design in Training and DevelopmentEAC 585 Integrating Technology into Training ProgramsEAC 731 Technology in Adult, Higher, and Human Resource Education | 12 |

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| **LD&T Digital-Applied Research Methods Strand: (choose 2 courses˘)** | 6 hours |
| ECI 719 Special Problems LD&T: Design-Based ResearchECI 719 Special Problems LD&T: Learning AnalyticsECI 719 Special Problems LD&T: User-Exper. Research & Meth for Eductl. SoftwareECI 502 Continuous Improvement of School Technology Initiatives--EvaluationECI 652 Field-Based Applications of Digital Learning & Teaching--Action ResearchEMS 792 Special Topics in Math: Digital Learning Systems & Agile Methodologies CSC 591 Special Topics in CS: Educational Data Mining | 6 |

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| **Independent Study Strand: (optional)**These optional courses are selected with advisor approval and can substitute for some of the 24 credit hours in the Learning, Design, & Technology cognate areas. | 0 hours |
| ECI 830 Independent Study in Curriculum and InstructionECI 840 Practicum in Curriculum and Instruction ECI 880 Directed Study in Curriculum and Instruction ECI 885 Doctoral Supervised TeachingECI 892 Research Projects In Curriculum and InstructionECI 893 Doctoral Supervised Research | 0 |

**Dissertation Research minimum of 9 hours**

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| ECI 895 Doctoral Dissertation Research | 9 |

**NOTE**: For doctoral students either part-time or full-time who are working on their dissertation.

Writing the dissertation requires a major commitment of time and effort on both the part of the doctoral student and the faculty advisor. There should be consultation between the student and the dissertation chair about what is expected to be accomplished, and how much time is to be invested before the student registers. The College of Education strongly recommends that students who are registering for dissertation research (895) or preparation (899) register for at least 3 semester hours per semester, when appropriate.

**Other Course Substitutions**

With advisor approval, students may be able to substitute other technology-focused courses at the university for a course in this curriculum display. Our students may not be eligible to take all of the listed courses; consult with the individual department and instructor offering the course before asking for a substitute.

*\*Other Learning Theories and Processes Courses*

EAC 559 The Adult Learner

PSY 508 Cognitive Processes

PSY 525 Introduction to Cognitive Science

COM 561 Human Communication Theory

*†Other Specialization Courses*

COM 528 Communication Culture and Technology

COM 537 Gaming and Social Networks

COM 547 Mobile Technologies and Social Practices

CSC 554 Human-Computer Interaction

GD 571 Design as a Cognitive Artifact

GD 573 New Information Environments

HI 585 History of American Technology

HI 589 Interpretation in Historic Sites and Parks

HI 591 Museum Studies

TED 530 Foundations for Teaching Technology

*˘Other Digital-Applied Research Methods Courses*

COM 543 Visual Content Analysis