Instructional Design & Development

The purpose of the UAB Learning Design & Learning Sciences (LDLS) program is to prepare creative and adaptable learning scientists and designers who can transform learning in diverse contexts. This fully online, asynchronous program emphasizes learning as a process of "becoming" and the construction of knowledge, meaning, self, and the world. Graduates will be proficient in cutting-edge theories, methodologies, and technologies from the learning sciences and learning design, enabling them to design complex and transformative learning experiences for rapidly evolving contexts.

Learning design in the learning sciences is the practice of creating engaging and effective learning experiences and environments grounded in a deep understanding of learners and learning theories. The process involves analyzing learner needs and contexts, defining desired learning outcomes, designing and developing innovative learning interventions, and evaluating their impact. This iterative process is informed by a diverse range of learning theories, including constructionism, social constructivism, situated cognition, and complex systems theory, and considers the holistic nature of learning, encompassing cognitive, identity, motivational, social, and emotional aspects. The LDLS program emphasizes human-centered design, learner agency, and the importance of fostering creativity, critical thinking, and problem-solving skills.

The LDLS program curriculum explores learning theory, design thinking, learning analytics, multimodal learning, augmented intelligence in learning, and other contemporary topics in the learning sciences. It emphasizes the development of data literacy, media literacy, AI literacy, and design-based research skills. Students gain practical experience through project-based learning, real-world impact projects, and a research practicum. The program prepares graduates for a range of careers, including learning experience designer, learning scientist, learning engineer, researcher, educational consultant, learning officer, instructional designer, corporate trainer, and EdTech entrepreneur.

Master of Science in Learning Design & Learning Sciences

Requirements		Hours
IDD 600	Trends and Issues in Instructional Design	3
IDD 610	Instructional Design	3
IDD 620	Universal Differential Instructional Design and Development	3
IDD 630	Performance System Technology	3
IDD 640	Learning, Cognition, and Instructional Design and Development	3
IDD 650	Alternate Instructional Design and Development Models	3
IDD 660	Assessment and Evaluation in Instructional Design & Development	3
IDD 670	Multimedia Design and Development for Instruction and Training	3
IDD 680	Instructional Design and Development Elective	3
IDD 690	Research Practicum	3
Total Hours		**30**

IDD-Instructional Design Dev Courses

IDD 600. Trends and Issues in Instructional Design. 3 Hours.
This course defines the field of instructional design and learning design by exploring its history, current trends and future issues in the field. The course provides insights from leaders in the field, case studies on instructional design in different fields, and interactive activities on the systematic approaches to instructional design.

IDD 610. Instructional Design. 3 Hours.
Instructional Design is a project-based course that includes step-by-step strategies to create learning experiences using design models, instructional strategies, and technology applications. Learners will study the processes of analysis, design, development, implementation, and evaluation in order to apply real-world learning experience design solutions to instructional challenges.

IDD 620. Universal Differential Instructional Design and Development. 3 Hours.
This course gives students an experience in research-based learning design methods and alternative assessment strategies designed to meet the varied instructional needs and preferences of all learners in today's educational environments.

IDD 630. Performance System Technology. 3 Hours.
This course provides students with practical methods of analyzing and solving human performance problems with an emphasis on development of both non-instructional and instructional interventions. An overview of concepts and current issues related to the design and development of learning and performance systems at the macro-level is also provided, allowing learners to explore learning and performance from a broad organizational perspective.

IDD 640. Learning, Cognition, and Instructional Design and Development. 3 Hours.
This course surveys the learning sciences literature that is especially relevant for instructional designers. The course covers major theoretical perspectives in the learning sciences and has students read original empirical research. The goal is to prepare IDD students to utilize learning sciences literature in their careers.

IDD 650. Alternate Instructional Design and Development Models. 3 Hours.
This course affords students the opportunity to apply a variety of well-established and emerging learning design and development models.

IDD 660. Assessment and Evaluation in Instructional Design & Development. 3 Hours.
Students will learn how to assess human attitudes, knowledge and performance, analyze practical data, and evaluate learning and human performance programs.

IDD 670. Multimedia Design and Development for Instruction and Training. 3 Hours.
This course will present techniques for the integration of learning design theory and practice with the current and emerging delivery systems. Students will develop skills and explore software necessary to develop and produce an original interactive learning product.

IDD 680. Instructional Design and Development Elective. 3 Hours.
Content will be diversified opportunities to take advantage of specific areas of expertise of faculty, availability of experts in areas not covered in other course work, or original projects that become available.

IDD 690. Research Practicum. 1-3 Hour.
The research practicum is a supervised learning experience in an actual or similar setting to those which instructional designers, learning experience designers, and learning scientists are employed.

LDLS-Learning Dsgn Learning Sc Courses

LDLS 600. Foundations of the Learning Sciences and Learning Design. 3 Hours.
This course defines the field of the Learning Sciences and learning design. It serves as an introduction into the origins, epistemologies, praxis, and future issues of the Learning Sciences and Learning Design. Students will delve into the historical evolution of the field, understand its key tenets, and explore design science principles. The course also offers an overview of various learning theories, serving as a contextual bedrock for their journey in reshaping how society understands learning.

LDLS 610. Learning Experience Design I. 3 Hours.
Learning Experience Design I is a project-based course that introduces the processes for designing effective and innovative learning experiences. Students will learn how to identify learning needs, analyze learner contexts, develop targeted learning outcomes, ideate creative solutions, and iteratively improve designs.

LDLS 620. Learning Design Research Methods. 3 Hours.
This course surveys research methodologies used in the Learning Sciences and learning design, with an emphasis on design-based research. Students will collect and analyze qualitative data, conduct learning experience network analysis, and use research to drive iterative design improvements.
Prerequisites: LDLS 610 [Min Grade: C]

LDLS 630. Design Thinking for Engaged Learning. 3 Hours.
This course investigates the synergies between design thinking and learning experience design. This course emphasizes the utilization of design thinking methodologies as both a design tool and a subject of instruction to foster deep engagement and intrinsic motivation. In this course, students will explore design thinking processes and mindsets and apply them to create engaging, learner-centered learning experiences.
Prerequisites: LDLS 610 [Min Grade: C]

LDLS 640. Learning Theories for Learning Design. 3 Hours.
This course engages students in exploring the pantheon of learning theories that inform and shape the field of Learning Sciences. Students will analyze and evaluate cognitive, situative, motivational, identity and other theories to translate key principles into design moves. Students will develop the capability to select appropriate learning theories and translate theoretical perspectives into actionable design principles, enabling the construction of learning experiences that are deeply rooted in validated frameworks.
Prerequisites: LDLS 610 [Min Grade: C]

LDLS 650. Learning Experience Design II. 3 Hours.
This advanced course will help students expand their understanding of learning experience design to include cultural and cognitive aspects. Dive into theories like 4E cognition and cultural-historical activity theory (CHAT) to design learning experiences that drive change at multiple scales, from cognitive shifts to cultural transformations.

LDLS 660. Learning Analytics. 3 Hours.
This course examines the role of data analytics in understanding and optimizing learning. Students will navigate the convergence of the Learning Sciences and data analytics. This course enables students to understand and employ data analytics in assessing and improving learning experiences, while also considering the complex nature of learning. Students will identify learning data sources, implement analytical techniques and apply findings to improve educational design.

LDLS 670. Multimodal Learning and Information Design. 3 Hours.
This course differentiates learning design from information design and applies key principles from both fields to create effective multimodal learning experiences. Students will engage in an in-depth examination for the principles that guide the design of multimodal learning experiences and information systems. This course provides students with tools to effectively develop resources that can be integrated into diverse learning contexts.

LDLS 680. Game-Based Learning. 3 Hours.
In this course, students will unpack the intricacies of game-based learning (GBL), differentiating it from gamification and examining its potential for identity exploration. Students will design immersive learning experiences that leverage the intrinsic motivations and affordances provided by both experiential and generative game-based learning.
Prerequisites: LDLS 610 [Min Grade: C]

LDLS 681. Learning Design With and For Augmented Intelligence. 3 Hours.
This course is a foray into the cutting-edge intersection of the Learning Sciences and artificial intelligence (AI), characterized by a framing of AI as augmented intelligence. Students will develop AI literacy and leverage AI tools for designing learning experiences and design experiences that incorporate AI, all within a framework of extended and distributed cognition.
Prerequisites: LDLS 610 [Min Grade: C]

LDLS 682. Complex Systems. 3 Hours.
This course provides a complex systems perspective on learning contexts. Students will engage with various complex systems theories, including complex dynamical systems, complex adaptive systems, and complex conceptual systems. Students will analyze learning as a complex system and design experiences that embrace this complexity.
Prerequisites: LDLS 610 [Min Grade: C]

LDLS 683. Designing for Creativity in Learning. 3 Hours.
This course investigates the nuances of creativity in learning experiences and contexts. It focuses on frameworks, evaluations, and designs to nurture creative mindsets, creative environments, creative processes, and creative cognition. Students will utilize the Creativity Landscape framework to analyze and design learning experiences that are optimized for fostering creative thinking and action.
Prerequisites: LDLS 610 [Min Grade: C]

LDLS 684. Theory Building in the Learning Sciences. 3 Hours.
This course focuses on theory-building methodologies within the Learning Sciences. It explores approaches to developing new theories and building on existing theories to advance learning design and the Learning Sciences. Students will engage with grounded theory and design-based research methodologies to contribute to the body of theoretical knowledge in the field.
Prerequisites: LDLS 610 [Min Grade: C]

LDLS 685. Frontiers in the Learning Sciences. 3 Hours.
This course explores emerging topics, paradigms, methodologies, and debates in the Learning Sciences through a combination of readings, discussions, and hands-on activities. The specific content evolves each year to reflect the latest research and innovations in the field.
Prerequisites: LDLS 610 [Min Grade: C]

LDLS 690. Research Practicum. 1-3 Hour.
The research practicum is a supervised learning experience in a learning experience design or Learning Sciences research context. Research track students will individually or collaboratively design and conduct their own research projects. Design-track students will individually or collaboratively design and conduct their own learning experience design projects.
Prerequisites: LDLS 600 [Min Grade: C]