Applied Education Studies (BS): Learning Design and Technology

Learning, Design, and Technology (LDT) is a concentration under the Applied Education Studies (AES) degree in the College of Education. AES:LDT was designed for undergraduate students who are interested in working in the Education sector not as traditional teachers but as instructional designers and developers for varied employers (higher education, government/military agencies, business/industry) or as independent entrepreneurs of education services and products. While training in instructional design is typically found in graduate school, scholars in the field of LDT have highlighted undergraduate preparation as a future direction for the expanding field to help meet demand (An, 2024). We are excited to provide this opportunity for undergraduates at NC State, and given the large number of courses taken by undergraduates, expect AES:LDT graduates to be well prepared to meet employer demands.

As a field, LDT draws on interdisciplinary foundations across education, psychology, communications, and design to apply what is empirically understood about how people learn to effectively design, develop, implement, and evaluate instructional resources to improve learning and performance in varied settings. Graduates will develop knowledge of underlying learning theory, applicable instructional design skills such as instructional analysis and instructional strategy planning, design and development skills with varied technologies (e-learning, apps, games, video, AR/VR), and entrepreneurship and project management skills to plan and iterate original educational innovations.

Program Description

The AES:LDT concentration features the following:

- required four-course core for undergraduates taught by LDT faculty on campus featuring courses on foundations of LDT, instructional design, artificial intelligence in education, and educational innovation and entrepreneurship in education
- customizable curriculum plan featuring multiple elective slots and General Education Program (GEP) courses that LDT faculty have aligned with IBSTPI instructional design competencies (https://drive.google.com/file/d/1UeJABHwRcLRmsbb-QzV7GkMkublqNEGt/view/?usp=sharing) to ensure graduates are well prepared for careers in the field
- opportunity for undergraduates interested in entrepreneurial educational solutions to get involved in university entrepreneurial communities (https://entrepreneurship.ncsu.edu/) such as Campfire, the Entrepreneurship Garage, and the Entrepreneurs Village
- formally approved Accelerated Bachelor's to Master's (ABM) option allowing well-qualified undergraduates with a 3.5 GPA to receive both their B.S. and M.Ed. degrees in LDT in as little as five years with a 12-hour reduction in master's credit hours by taking four 500-level graduate courses in the senior year
- presently the only undergraduate concentration in the College of Education that does not lead to teacher licensure (no student teaching, edTPA portfolio, or Praxis exam) with graduates instead working as instructional designers, developers, or entrepreneurs

Additional Information

A frequently asked questions (FAQs) page (https://docs.google.com/document/d/1L-ILCR-AKtBWjkVYbfbt0EIVoQc31vHAZApjrwEl708/edit/?usp=sharing) is maintained by LDT faculty to provide expanded information on the AES:LDT program, its curriculum, student opportunities on campus and in employment, the Accelerated Bachelor's to Master's (ABM) option, and further references. For additional information, students can reach out to the AES:LDT undergraduate program coordinator, Dr. Kevin Oliver (kmoliver@ncsu.edu).

Plan Requirements

Code	Title	Hours
English, Literature, and Speech		
ENG 101	Academic Writing and Research	4
Advanced Writing (p. 2)		3
COM 110	Public Speaking	3
or COM 112	Interpersonal Communication	
or COM 211	Argumentation and Advocacy	
Humanities & Social Sciences		
PSY 200	Introduction to Psychology	3
SOC 202	Principles of Sociology	3
History (p. 2)		3
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
Education Major		
ED 100	Intro to Education	2
ELP 344	School and Society	3
EDP 304	Educational Psychology	3
PSY 376	Developmental Psychology	3
Major Electives		
Education Electives		3
STS 214	Introduction to Science, Technology, and Society	
Teaching Field Electives (p. 2)		30
Supporting Electives		12
CSC 281	Foundations of Interactive Game Design	
D 100	Design Inquiry I: Methods and Processes	
TDE 205	Desktop Publishing and Imaging Technology	
GEP Courses		
GEP Mathematical Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-mathematical-sciences/)		6
GEP Natural Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-natural-sciences/)		7
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		2
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)		5
GEP Global Knowledge (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/)		
GEP Foundations of American Democracy (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-fad/) (verify requirement)		

GEP Elective (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
World Language Proficiency (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/world-language-proficiency/)		
Free Electives		**19**
Total Hours		**120**

Advanced Writing

Code	Title	Hours
ENG 287	Explorations in Creative Writing	3
ENG 288	Fiction Writing	3
ENG 289	Poetry Writing	3
ENG 292	Writing About Film	3
ENG 316	Introduction to News and Article Writing	3
ENG 323	Writing in Rhetorical Traditions	3
ENG 331	Communication for Engineering and Technology	3
ENG 332	Communication for Business and Management	3
ENG 333	Communication for Science and Research	3

History

Code	Title	Hours
AFS/HI 275	Introduction to History of South and East Africa	3
AFS/HI 276	Introduction to History of West Africa	3
HI 205	Western Civilization Since 1400	3
HI 207	Ancient Mediterranean World	3
HI 208	The Middle Ages	3
HI 209	From Renaissance to Revolution: The Origins of Modern Europe	3
HI 210	Modern Europe 1815-Present	3
HI 221	British History to 1688	3
HI 222	History of British Cultures and Societies From 1688	3
HI 233	The World Since 1750	3
HI 251	American History I	3
HI 252	American History II	3
HI 263	Asian Civilizations to 1800	3
HI 264	Modern Asia: 1800 to Present	3
HI 270	Modern Middle East	3
HON 290	Honors Special Topics - Humanities/US Diversity	3
HON 293	Honors Special Topics - Interdisciplinary Perspectives/Global Knowledge	3

Teaching Field Electives

Code	Title	Hours
ECI 201	Intro to Instructional Technology for Educators	3
ECI 511	Introduction to Learning Design and Technology	3
ECI 512	Emerging Technologies for Teaching and Learning	3
ECI 513	Video for Teaching and Learning	3
ECI 514	Developing and Delivering Online Instruction	3
ECI 515	Cultural Investigations and Technical Representations in Education	3
ECI 516	Design and Evaluation Of Instructional Materials	3
ECI 517	Theoretical Foundations of Advanced Learning Environments	3
ECI 518	Digital Learning Program and Staff Development	3
EI 201	Exploring Interdisciplinary Entrepreneurial Thinking	3
EI 331	Interdisciplinary Entrepreneurial Thinking I: Skills and Planning Basics	3

This is a sample.

First Year

Fall Semester		Hours
ENG 101	Academic Writing and Research	4
PSY 200	Introduction to Psychology	3
GEP Mathematical Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-mathematical-sciences/)		3
COM 211 or COM 110 or COM 112	Argumentation and Advocacy (Communications Elective) or Public Speaking or Interpersonal Communication	3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
ED 100	Intro to Education	2
	Hours	**16**

Spring Semester		
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
GEP Mathematical Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-mathematical-sciences/)		3
SOC 202	Principles of Sociology	3
Free Elective		2
Teaching Field Elective (p. 2)		3
ANT 261	Technology in Society and Culture (GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/))	3
	Hours	**15**

Second Year

Fall Semester		
BIT 100	Current Topics in Biotechnology (GEP Natural Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-natural-sciences/))	3
D 100	Design Inquiry I: Methods and Processes (Supporting Elective)	3
ECI 201	Intro to Instructional Technology for Educators (Teaching Field Elective)	3
History Elective (p. 2)		3
Free Elective		3
	Hours	**15**

Spring Semester		
BIO 227	Understanding Structural Diversity through Biological Illustration (GEP Natural Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-natural-sciences/))	4
D 101	Design Inquiry II: Methods and Processes (GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/))	3
COM 200 or COM 395	Communication Media in a Changing World (GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)) or Studies in Rhetoric and Digital Media	3
GEP Elective (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
Free Elective		1
Hours		**14**
Third Year		
Fall Semester		
ELP 344	School and Society	3
CSC 281	Foundations of Interactive Game Design (Supporting Elective)	3
EI 201	Exploring Interdisciplinary Entrepreneurial Thinking (Teaching Field Elective)	3
Teaching Field Elective (p. 2)		3
ENG 331 or ENG 332	Communication for Engineering and Technology (Advanced Writing Elective) or Communication for Business and Management	3
Hours		**15**
Spring Semester		
EI 331	Interdisciplinary Entrepreneurial Thinking I: Skills and Planning Basics (Teaching Field Elective)	3
STS 214	Introduction to Science, Technology, and Society (Education Elective)	3
PSY 376 or PSY 475 or PSY 476	Developmental Psychology or Child Psychology or Psychology of Adolescent Development	3
Teaching Field Elective (p. 2)		3
TDE 205	Desktop Publishing and Imaging Technology (Supporting Elective)	3
SLC 250	Critical and Creative Decision Making Models (Free Elective)	3
Hours		**18**
Fourth Year		
Fall Semester		
GC 420	Visual Thinking (Free Elective)	3
AEE 325	Planning and Delivering Non-Formal Education (Free Elective)	3
EDP 304	Educational Psychology	3
Supporting Elective (p. 1)		3

Teaching Field (recommend drawing from 500-level instructional/media design courses in LDT master's program)		3
Hours		**15**
Spring Semester		
Teaching Field (recommend drawing from 500-level instructional/media design courses in LDT master's program)		9
HA 240	Introduction to Visual Culture (Free Elective)	3
Hours		**12**
Total Hours		**120**

For those pursuing the Accelerated Bachelor's Master's Program:

Fifth Year		
Fall Semester		**Hours**
Draw from 500-level instructional/media design courses in LDT master's program		3
ECI 546	New Literacies & Media	3
ECI 721	Technology and Informal Learning Environments	3
Hours		**9**
Spring Semester		
ECI 652	Field-Based Applications of Learning Design and Technology	3
ECI 502	Technology Program Evaluation	3
ECI 722	Theory and Research in Distance Education	3
Hours		**9**
Total Hours		**18**

Career Opportunities

Graduates are expected to work as instructional designers and content developers for different employers such as K-12 and private school systems, higher education institutions, government/military agencies, or business/industry. Some graduates may also be interested in entrepreneurial work, creating non-profits or startup companies to offer technical educational services, training, or new products.

Career Titles

- Content Developer
- Entrepreneur
- Instructional Designer
- Non-Profit Director
- Technical Director
- Training Specialist

Learn More About Careers

NCcareers.org (https://nccareers.org/)
Explore North Carolina's central online resource for students, parents, educators, job seekers and career counselors looking for high quality job and career information.

Occupational Outlook Handbook (https://www.bls.gov/ooh/)
Browse the Occupational Outlook Handbook published by the Bureau of Labor Statistics to view state and area employment and wage statistics.

You can also identify and compare similar occupations based on your interests.

Career One Stop Videos (https://www.careeronestop.org/)
View videos that provide career details and information on wages, employment trends, skills needed, and more for any occupation. Sponsored by the U.S. Department of Labor.

Focus 2 Career Assessment (https://careers.dasa.ncsu.edu/explore-careers/career-assessments/) (NC State student email address required)
This career, major and education planning system is available to current NC State students to learn about how your values, interests, competencies, and personality fit into the NC State majors and your future career. An NC State email address is required to create an account. Make an appointment with your career counselor (https://careers.dasa.ncsu.edu/about/hours-appointments/) to discuss the results.

Focus 2 Apply Assessment (https://www.focus2career.com/Portal/Register.cfm?SID=1929) (Available to prospective students)
A career assessment tool designed to support prospective students in exploring and choosing the right major and career path based on your unique personality, interests, skills and values. Get started with Focus 2 Apply and see how it can guide your journey at NC State.