

New Program Proposal

Master of Education, Learning Sciences (2 Concentrations: Instructional Design; Effective Online Instruction) [CIP Code: 13.0607]

Clemson University [Site Code: Online Degree Program (85750)]

A. SUMMARY

Clemson University is proposing a M.Ed. Learning Sciences program offering students an opportunity to build upon their existing disciplinary knowledge to enable them to apply theoretical and practical knowledge, design skills, and research skills to their area of specialization. The expertise acquired from the PhD Learning Sciences program creates a purposeful master's program that fills a need in the State and the region for a more holistic and interdisciplinary approach to learning sciences education.

The MEd in Learning Sciences is a 30-credit hour program that includes coursework in research concepts and skills, learning theory, human learning and assessment, instructional design of digital learning environments, and effective online teaching and learning. Ten courses that can be completed in four academic terms and the ability to take advantage of courses within the current Master of Human Resource Development (HRD) program; this latter cross-collaboration increases the value of the program, so it appeals not just to educators, but also to corporate trainers, human resource personnel, and program evaluators. The proposed master's degree will be offered entirely online Fall 2024.

Eighteen credit hours of the 30-credit hour curriculum are new courses:

EDF 8110 - Foundations of Learning Sciences (3 credit hours): Focuses on foundational concepts in the learning sciences from diverse perspectives. Key topics include theories of learning, cognition, motivation, assessment, and designing learning environments.

EDF 8040 - Adult Learning and Development in Context (3 credit hours): Exploration of foundational theory and research in learning and development with adult learners in professional

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and educational contexts. Key topics include ecological systems of development, cognitive and psychosocial development in adulthood, contextualizing assessment for adults, and strategies for diversity in learning.

EDF 8090 - Assessment of Human Learning (3 credit hours): This course introduces a backward design approach to the planning and assessment of individual and organizational growth and learning through the current lenses of research-based findings and practices in learning theories. In particular, identifying individual and group goals and quality assessment practices for diagnosing performance needs, planning and guiding growth and learning, fostering self-reflection, and informing teaching effectiveness and program evaluation. Topics include determining what to assess, diagnosing performance baseline measures, formative assessment practices, and implications of summative assessment.

EDF 8070 - Foundations of Instructional Design (3 credit hours): Focuses on the development and implementation of instructional materials. Topics include learning theories, practical approaches to curriculum development, and best practices for providing quality professional and educational experiences.

EDF 8120 - Design of Equitable Digital Learning Environments (3 credit hours): Focuses on theories and applications related to designing equitable digital and computer-based learning spaces for learners of all ages, abilities, and cultures. Topics include inclusivity, constructivism, multiple epistemologies, mixed reality, and physical computing.

EDF 8180 - Cognitive Approaches to Instructional Design (3 credit hours): Focuses on cognitive approaches to learning and instructional design. Key topics include understanding by design, memory, information processing, cognitive load theory, and emotional design.

The Masters of Learning Science program is targeted toward a wide variety of individuals, including educators (formal and informal), instructional designers, researchers, corporate trainers, and human resource professionals. Learning sciences is a broad field that sees application in nearly all industries.

B. UNIVERSITY STUDENT AND PROGRAM DATA, Semester Year

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Graduate: in-state (41%) /out-of-State (59%) Enrollment, Fall 2023

*Source: Provisional Fall 2023 Enrollment Data

C. INSTITUTIONAL APPROVALS AND DATES OF APPROVAL (include department
through Provost/Chief Academic Officer, President, and Board of Trustees approval):

Internal Institutional Unit	Approval Date
Graduate Curriculum Committee	April 14, 2023
Provost	September 22, 2023
Board of Trustees	October 5, 2023

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D. SIMILAR PROGRAMS IN SOUTH CAROLINA – PUBLIC AND PRIVATE INSTITUTIONS

Program Name and Designation	Total Credit Hours	Institution	Similarities	Differences
Instructional System Design & Performance Improvement	30	The Citadel	Master's degree, 100% online, 30 credit hours	Doesn't offer many learning theory courses
Instructional Technology	30	Coastal Carolina University	Master's degree, 100% online, 30 credit hours	More technology focus; omits learning theory courses
Data Science and Analytics	30	College of Charleston	Master's degree, 100% online, 30 credit hours	More statistic/math focus; not focused on learning specifically
Teaching and Learning: Instructional Technology	36	Lander University	Master's degree	Instructional technology is a concentration area, degree is in Teaching & Learning
Learning Design & Technologies, Educational Psychology & Research	33,36	U.S.C. - Columbia	Master's degree, 100% online	33 credit hours; Provides an on-campus option; two concentration areas (education psychology & educational research)
Learning Design & Technology	30	Winthrop University	Master's degree, 100% online	Has a practicum requirement

E. ENROLLMENT PROJECTIONS

Projected Enrollment			
Year	Fall Headcount	Spring Headcount	Summer Headcount
2024/25	16	16	15
2025/26	38	23	22
2026/27	47	25	24
2027/28	51	27	25
2028/29	55	30	28

The proposed program anticipates an initial cohort of approximately 16-18 students, which is line with other master's programs in the college. We are confident in achieving these numbers based on: a) the growing fields and occupations related to learning sciences, instructional design, learning analytics b) the fully online modality of that the program that makes it attractive to individuals who are currently working a full time job or are looking to advance their education, and c) its level makes that makes it well-suited for individuals who want expertise in the Learning Sciences but who are not seeking a terminal degree. The enrollment model above assumes incoming fall cohorts and program completion after four semesters (including the summer term).

F. INDUSTRY-RELATED OCCUPATIONAL WAGES AND PROJECTIONS IN SOUTH CAROLINA

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Occupation	State		National		Data Type and Source
	Expected Number of Jobs (May 2022)*	Employment Projection** (2020-2030)	Expected Number of Jobs (2032)***	Employment Projection (2022-2032)	
Instructional Coordinators	2,540	11.2% growth	221,900	2% growth	BLS
Career and Technical Education Teachers	1,160	11.2% growth	211,300	No significant growth	BLS
Postsecondary Teachers	1,210	11.2% growth	1,442,000	8% growth	BLS
Training and Development Managers	650	13.8% growth	44,000	6% growth	BLS
Training and Development Specialists	4,940	14.2% growth	410,000	6% growth	BLS

*Number of jobs in the occupation from the [BLS' May 2022 SC Occupational Employment and Wage Estimates](#)

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**Growth rate of 2-digit SOC code family from the [SC Occupational Employment Projections \(2020-2030\)](#) by the SC

Department of Employment and Workforce

***Projected number of jobs in 2032 from the BLS Occupational Outlook Handbook

Supporting Evidence of Anticipated Employment Opportunities

Wage data for the specific SOC-based occupations above reflect quality of the employment opportunities and are consistent with projected significant demand. According to the [BLS' May 2022 SC Occupational Employment and Wage Estimates](#), the average annual wage in SC for the occupations above ranges from \$54,320 for Career and Technical Education Teachers to \$107,950 for Training and Development Managers.

G. CHE STAFF STAGES OF CONSIDERATION

Considerations	Date	Comments
Program proposal received	1.29.2024	Original Proposal received via email. Assigned lead reviewer and second reader
Summary of staff comments, responses, and versions	2.12.2024	One revision request included: • Student Demand • Workforce Demand
ACAP Considerations	3/28/2024	ACAP questions: None

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		Responses: Note that FMU has a Master of Ed in Teaching and Learning. Vote: Approved
CAAL Considerations (See attached commissioner questions and responses)		CAAL questions: Commissioner Seckinger - Is this a robust program? Is there a certificate? Market data? Responses: Clemson – Yes, the program is very robust. Yes, CU has an online certificate program for K-12. One hundred percent completion. Vote: Approved
CHE Considerations		CHE questions Responses Vote
Submission to IT for addition to inventory		Date completed

H. STAFF, ACAP, CAAL AND CHE RECOMMENDATIONS

a. STAFF RECOMMENDED ACTION

Recommended

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b. ACAP RECOMMENDATION

Approved

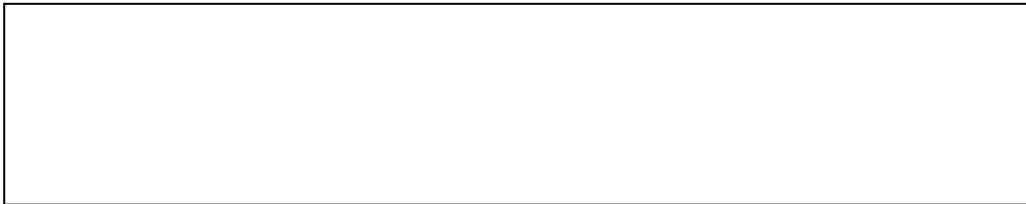
c. CAAL RECOMMENDATION

Approved

d. CHE RECOMMENDATION

Choose an item.

Additional Comments:



NEW PROGRAM PROPOSAL FORM

Name of Institution: **Clemson University**

Name of Program (include degree designation and all concentrations, options, or tracks):
Master of Education, Learning Sciences (2 Concentrations: Instructional Design; Effective Online Instruction)

Program Designation:

- | | |
|---|--|
| ☐ Associate's Degree | ☒ Master's Degree |
| ☐ Bachelor's Degree: 4 Year | ☐ Specialist |
| ☐ Bachelor's Degree: 5 Year | ☐ Doctoral Degree: Research/Scholarship (e.g., Ph.D. and DMA) |
| ☐ Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and M.D.) | |

Consider the program for supplemental Palmetto Fellows and LIFE Scholarship awards?

- ☐ Yes
☒ No

Proposed Date of Implementation: **Fall 2024**

CIP Code: **13.0607**

Delivery Site(s): **Online Degree Program (85750)**

Delivery Mode:

- | | |
|--|---|
| ☐ Traditional/face-to-face
*select if less than 25% online | ☒ Distance Education
☒ 100% online
☐ Blended/hybrid (50% or more online)
☐ Blended/hybrid (25-49% online)
☐ Other distance education (explain if selected) |
|--|---|

Program Contact Information (name, title, telephone number, and email address):

Amanda Bennett, Lecturer in Education and Human Development, College of Education;
717.979.9795; aebenne@clemson.edu
Jeremy King; Assoc. Provost for Institutional Effectiveness; 864.934.3554; jking2@clemson.edu

Institutional Approvals and Dates of Approval (include department through Provost/Chief Academic Officer, President, and Board of Trustees approval):

Graduate Curriculum Committee: April 14, 2023
Provost: September 22, 2023
Board of Trustees: October 5, 2023

Background Information

State the nature and purpose of the proposed program, including target audience, centrality to institutional mission, and relation to the strategic plan.

Background, Purpose, and Field of Application

Learning Sciences is an interdisciplinary field that brings together concepts from psychology, education, computer science, cognitive science, and other disciplines to improve understanding of how people learn. Due to the interdisciplinary nature of the Learning Sciences field, students will learn to develop, deliver, revise, and evaluate effective learning experiences in a variety of contexts specific to their area of expertise.

The proposed MEd Learning Sciences program will offer students an opportunity to build upon their existing disciplinary knowledge to enable them to apply theoretical and practical knowledge, design skills, and research skills to their area of specialization. The expertise acquired from our PhD Learning Sciences program allows us to create a purposeful master's program that fills a need in the State and the region for a more holistic and interdisciplinary approach to learning sciences education.

Our degree will leverage opportunities in the southeastern United States for prospective students seeking a holistic approach that incorporates the learning sciences with instructional design components as well as learning theory, human assessment strategies, research practices, design of digital learning environments, and effective online teaching and instruction. Additionally, we hope to capture students seeking to enter one of the fastest growing fields in education today. Research shows that there is significant growth in multiple sectors related to training and development, instructional design, higher education, K-12, and the need for professionals with an understanding of learning sciences (Nworie, 2022).

Learning Scientists study learning in a variety of contexts; therefore, degree holders will be able to apply their knowledge in a variety of fields and jobs, including K-12 and Post-Secondary Education, corporate training, human development, educational technologists, media developers, military, instructional designers and curriculum developers, data and research analysts, and more. Accordingly, we anticipate the program to be attractive to a broad population of prospective students.

Reference: Nworie, J. (2022). The increasing quest for instructional designers and technologists in higher education and corporate settings. *Contemporary Educational Technology*, 14(1), 1-20.
<https://doi.org/10.30935/cedtech/11481>.

Target Audience

The Masters of Learning Science program is targeted toward a wide variety of individuals, including educators (formal and informal), instructional designers, researchers, corporate trainers, and human resource professionals. Learning sciences is a broad field that sees application in nearly all industries.

Alignment with Institutional Mission and Strategic Plan

The master's program in the Learning Sciences aligns with the institutional mission of Clemson University:

Clemson University was established to fulfill our founder's vision of "a high seminary of learning" to develop "the material resources of the State" for the people of South Carolina. Nurtured by an abiding land grant commitment, Clemson has emerged as a research university with a global vision. Our primary purpose is educating undergraduate and graduate students to think deeply about and engage in the social, scientific, economic, and professional challenges of our times. The foundation of this mission is the generation, preservation, communication, and application of knowledge.

By initiating this new graduate degree program, we will be fulfilling the goals of the Clemson Elevate plan by providing students with the opportunity to “provide and measure innovative learning opportunities for students inside and outside of the classroom that contribute to their success throughout their lives and that involve leadership, creativity, innovation, and entrepreneurial thinking” (Clemson, 2023). The interdisciplinary nature of Learning Sciences will prepare students to meaningfully engage in complex challenges that require a diverse understanding of research, learning, and technology, as well as the modern skills needed to address them: problem-solving, collaboration, creativity, and critical thinking. Teaching, research, and service within the program will contribute to Clemson consistently ranking among the nation’s top public universities and Carnegie tier one research institutions.

Further, this advanced degree program aligns with Clemson’s College of Education mission statement with the goal of engaging tomorrow’s educators and future leaders in high-quality research and professional learning that will allow them to make positive socioeconomic and workforce differences in the state of South Carolina and beyond. As stated in the mission of the College of Education, “we see a significant role for our college in the economic development of our state and nation” and offering an advanced degree program in the learning sciences will allow our graduates to utilize their expertise in the realm of data science, learning analytics, and instructional design to aid in solving local and global challenges. According to Forbes, 21st century technologies—data analysis tools in particular—have the biggest potential to effectively tackle a variety of global issues. Our program aligns not only with Clemson’s College of Education’s mission, but also the larger University mission of “engaging in the social, scientific, economic, and professional challenges of our times”, further enhancing the education and development of all our graduates, and bettering the lives of individuals and communities.

Reference: Forbes (2019). *How Data Science Will Help Solve Many of the World’s Most Pressing Challenges*. <https://www.forbes.com/sites/imperialinsights/2019/09/23/data-science-for-social-good/?sh=10505bb2464b>

Assessment of Need

Provide an assessment of the need for the program for the institution, the state, the region, and beyond, if applicable.

The University currently offers a Learning Sciences doctoral program without a master’s counterpart. The proposed master’s degree will be offered entirely online, comprises ten courses that can be completed in four academic terms, and is taking advantage of courses within the current Master of Human Resource Development (HRD) program; this latter cross-collaboration increases the value of the program, so it appeals not just to educators, but also to corporate trainers, Human Resource personnel, and program evaluators.

The proposed holistic degree program would allow Clemson University to compete with nationally-recognized R1 research institutions such as the University of Miami and the University of Pennsylvania that currently offer similar programs. The program will also allow Clemson University to compete both regionally and nationally for students interested in pursuing an in-demand career in learning sciences such as instructional design, learning analytics, education research, educational policy analysis, educational administration, and training and development.

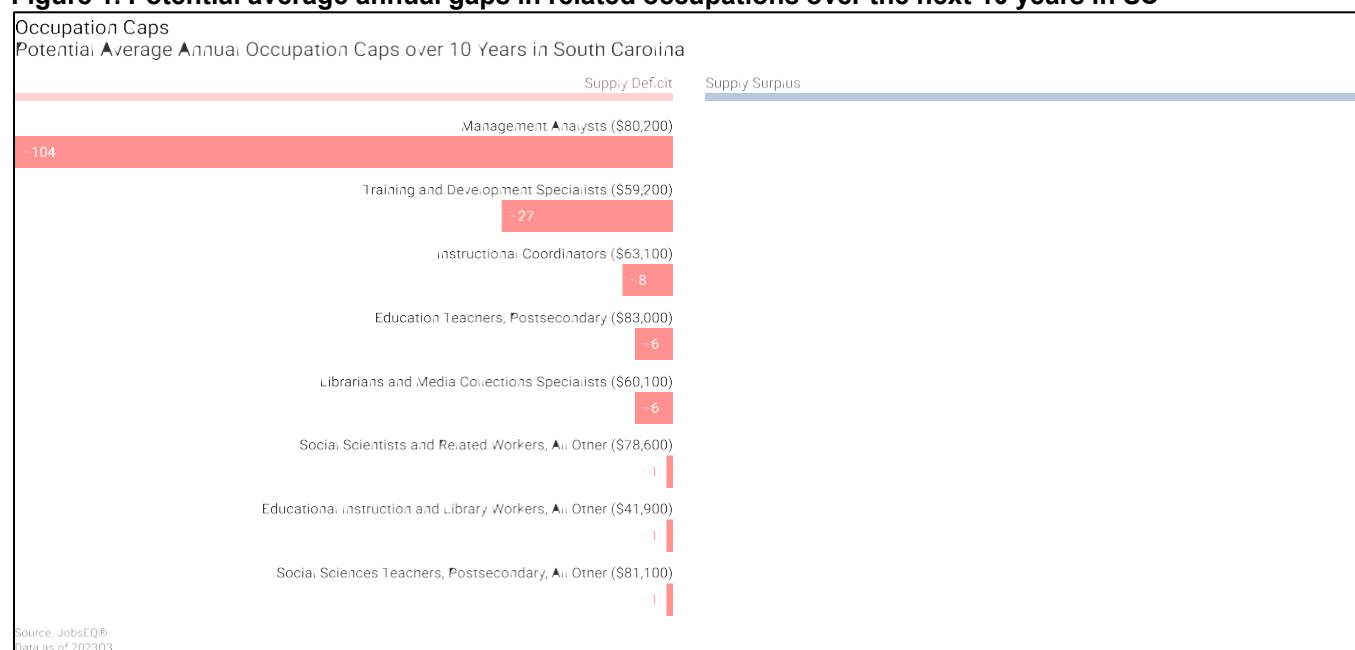
There is significant demand for professionals who recognize learning strategies and the importance of designing effective educational pathways. As tabulated in the Employment Opportunities section below, U.S. Bureau of Labor Statistics data indicate that there will be over 2 million positions in the top five fields that utilize a Master of Learning Sciences degree by 2032. Clemson’s College of Education ranks among the top-rated online graduate education program providers in the nation, which signals the likely success of the MEd Learning Sciences program.

To supplement the information already provided, Clemson conducted a review of award gaps, occupation gaps (based on the difference between labor projections and degree awards), and real-time job postings

data, using Chmura's JobsEQ labor market research tools. The analysis examined the proposed CIP Code (13.0607) and 3 related CIP Codes (13.0501, 13.0601, and 13.1299). Related occupation codes were drawn from the 2020 CIP SOC crosswalk.

An average annual labor supply deficiency of 154 is forecasted for the occupations relative to the degree production in these CIP codes over the next 10 years in South Carolina (Figure 1). A supply deficiency means that the demand for workers in these occupations is expected to grow more quickly than can be met by the population growth and educational attainment of South Carolina residents over the same time period. The occupation gap analytic factors in worker migration.

Figure 1. Potential average annual gaps in related occupations over the next 10 years in SC



Job posting data provides a snapshot of active job postings preferring or requiring a master's degree and in related occupations from February 2023 to February 2024. Job posting data serves as a proxy measure of hiring activity. The available data demonstrates active hiring activity in South Carolina for positions where a master's level degree is preferred or required for the related occupations.

Figure 2. JobsEQ Real-Time Intelligence Job Posting Data

SOC	Occupation	Active Job Ads
13-1111	Management Analysts	75
25-4022	Librarians and Media Collections Specialists	67
25-9031	Instructional Coordinators	67
25-1081	Education Teachers, Postsecondary	30
13-1151	Training and Development Specialists	20
19-3099	Social Scientists and Related Workers, All Other	2

Source: [JobsEQ®](#)
Data reflect online job postings that were active from 2/19/2023 to 2/19/2024
See JobsEQ online Help for important Technical Notes.

Transfer and Articulation

Identify any special articulation agreements for the proposed program. Provide the articulation agreement or Memorandum of Agreement/Understanding.

No articulation agreements will be associated with the proposed program.

Employment Opportunities

Occupation	State		National		Data Type and Source
	Expected Number of Jobs (May 2022)*	Employment Projection** (2020-2030)	Expected Number of Jobs (2032)***	Employment Projection (2022-2032)	
Instructional Coordinators	2,540	11.2% growth	221,900	2% growth	BLS
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*Number of jobs in the occupation from the [BLS' May 2022 SC Occupational Employment and Wage Estimates](#)

**Growth rate of 2-digit SOC code family from the [SC Occupational Employment Projections \(2020-2030\)](#) by the SC Department of Employment and Workforce

***Projected number of jobs in 2032 from the BLS Occupational Outlook Handbook

Supporting Evidence of Anticipated Employment Opportunities

Wage data for the specific SOC-based occupations above reflect quality of the employment opportunities and are consistent with projected significant demand. According to the [BLS' May 2022 SC Occupational Employment and Wage Estimates](#), the average annual wage in SC for the occupations above ranges from \$54,320 for Career and Technical Education Teachers to \$107,950 for Training and Development Managers.

Description of the Program

The MEd in Learning Sciences is a 30-credit hour online program that includes coursework in research concepts and skills, learning theory, human learning and assessment, instructional design of digital learning environments, and effective online teaching and learning. Students will have the option to choose between two concentrations: *Instructional Design* and *Effective Online Instruction*. The curriculum is intended to strengthen and enhance students' understanding of interdisciplinary approaches to teaching and learning by integrating research, data, technology, and practices from a variety of fields of study.

Projected Enrollment												
Year	Fall Headcount				Spring Headcount				Summer Headcount			
	New	Continuing	Lost	Graduate	New	Continuing	Lost	Graduate	New	Continuing	Lost	Graduate
2024/25	16	0	0	0	0	16	1	0	0	15	0	0
2025/26	23	15	0	15	0	23	1	0	0	22	0	0
2026/27	25	22	0	22	0	25	1	0	0	24	0	0
2027/28	27	24	0	24	0	27	2	0	0	25	0	0
2028/29	30	25	0	25	0	30	2	0	0	28	0	0

Projected Enrollment			
Year	Fall Headcount	Spring Headcount	Summer Headcount
2024/25	16	16	15
2025/26	38	23	22
2026/27	47	25	24
2027/28	51	27	25
2028/29	55	30	28

Explain how the enrollment projections were calculated.

The proposed program anticipates an initial cohort of approximately 16-18 students, which is line with other master's programs in the college. We are confident in achieving these numbers based on: a) the growing fields and occupations related to learning sciences, instructional design, learning analytics b) the fully online modality of that the program that makes it attractive to individuals who are currently working a full time job or are looking to advance their education, and c) its level makes that makes it well-suited for individuals who want expertise in the Learning Sciences but who are not seeking a terminal degree. The enrollment model above assumes incoming fall cohorts and program completion after four semesters (including the summer term).

Besides the general institutional admission requirements, are there any separate or additional admission requirements for the proposed program? If yes, explain.

☐ Yes

☒ No

Curriculum

New Courses

List and provide course descriptions for new courses.

Eighteen credit hours of the 30 credit hour curriculum are new courses:

EDF 8110 - Foundations of Learning Sciences (3 credit hours)

- Focuses on foundational concepts in the learning sciences from diverse perspectives. Key topics include theories of learning, cognition, motivation, assessment, and designing learning environments.

EDF 8040 - Adult Learning and Development in Context (3 credit hours)

- Exploration of foundational theory and research in learning and development with adult learners in professional and educational contexts. Key topics include ecological systems of development, cognitive and psychosocial development in adulthood, contextualizing assessment for adults, and strategies for diversity in learning.

EDF 8090 - Assessment of Human Learning (3 credit hours)

- This course introduces a backward design approach to the planning and assessment of individual and organizational growth and learning through the current lenses of research-based findings and practices in learning theories. In particular, identifying individual and group goals and quality assessment practices for diagnosing performance needs, planning and guiding growth and learning, fostering self-reflection, and informing teaching effectiveness and program evaluation. Topics include determining what to assess, diagnosing performance baseline measures, formative assessment practices, and implications of summative assessment.

EDF 8070 - Foundations of Instructional Design (3 credit hours)

- Focuses on the development and implementation of instructional materials. Topics include learning theories, practical approaches to curriculum development, and best practices for providing quality professional and educational experiences.

EDF 8120 - Design of Equitable Digital Learning Environments (3 credit hours)

- Focuses on theories and applications related to designing equitable digital and computer-based learning spaces for learners of all ages, abilities, and cultures. Topics include inclusivity, constructivism, multiple epistemologies, mixed reality, and physical computing.

EDF 8180 - Cognitive Approaches to Instructional Design (3 credit hours)

- Focuses on cognitive approaches to learning and instructional design. Key topics include understanding by design, memory, information processing, cognitive load theory, and emotional design.

Total Credit Hours Required: 30 credit hours

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Concentration: Effective Online Instruction

Curriculum by Year					
Course Name	Credit Hours	Course Name	Credit Hours	Course Name	Credit Hours
Year 1					
Fall		Spring		Summer	
EDF 8110- Foundations of Learning Sciences	3	EDF 8040- Adult Learning and Development in Context	3	EDF 8120- Design of Equitable Digital Learning Environments	3
EDF 8070- Foundations of Instructional Design	3	HRD 8800- Research Concepts and Skills	3	EDF 8090- Assessment of Human Learning	3
				EDF 8200- Effective Online Teaching	3
				EDF 8210- Online Course Management	3
Total Semester Hours	6	Total Semester Hours	6	Total Semester Hours	12
Year 2					
Fall		Spring		Summer	
EDF 8220- Web Tools to Enhance Online Engagement	3				
EDF 8230- Instructional Design and Assessment	3				
Total Semester Hours	6	Total Semester Hours	0	Total Semester Hours	0

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Concentration: Instructional Design

Curriculum by Year					
Course Name	Credit Hours	Course Name	Credit Hours	Course Name	Credit Hours
Year 1					
Fall		Spring		Summer	
EDF 8110- Foundations of Learning Sciences	3	EDF 8040- Adult Learning and Development in Context	3	EDF 8120- Design of Equitable Digital Learning Environments	3
EDF 8070- Foundations of Instructional Design	3	HRD 8800- Research Concepts and Skills	3	EDF 8090- Assessment of Human Learning	3
				HRD 8450- Learning Analytics	3
				EDF 8230- Instructional Design and Assessment	3
Total Semester Hours	6	Total Semester Hours	6	Total Semester Hours	12
Year 2					
Fall		Spring		Summer	
HRD 8470- Instructional Systems Design	3				
EDF 8180- Cognitive Approaches to Instructional Design	3				
Total Semester Hours	6	Total Semester Hours	0	Total Semester Hours	0

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Similar Programs in South Carolina offered by Public and Independent Institutions

Identify the similar programs offered and describe the similarities and differences for each program.

Program Name and Designation	Total Credit Hours	Institution	Similarities	Differences
Instructional System Design & Performance Improvement	30	The Citadel	Master's degree, 100% online, 30 credit hours	Doesn't offer many learning theory courses
Instructional Technology	30	Coastal Carolina University	Master's degree, 100% online, 30 credit hours	More technology focus; omits learning theory courses
Data Science and Analytics	30	College of Charleston	Master's degree, 100% online, 30 credit hours	More statistic/math focus; not focused on learning specifically
Teaching and Learning: Instructional Technology	36	Lander University	Master's degree	Instructional technology is a concentration area, degree is in Teaching & Learning
Learning Design & Technologies, Educational Psychology & Research	33,36	U.S.C. - Columbia	Master's degree, 100% online	33 credit hours,; Provides an on-campus option; two concentration areas (education psychology & educational research)
Learning Design & Technology	30	Winthrop University	Master's degree, 100% online	Has a practicum requirement

The main differences between our proposed program and the programs mentioned above is that our program has a holistic approach incorporating the learning sciences and focuses on incorporating instructional design components as well as learning theory, human assessment strategies, research practices, design of digital learning environments, and effective online teaching and instruction. Our program also offers two concentration areas that students can choose: instructional design and effective online instructions.

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Faculty

Rank and Full- or Part-time	Courses Taught for the Program	Academic Degrees and Coursework Relevant to Courses Taught, Including Institution and Major	Other Qualifications and Relevant Professional Experience (e.g., licensures, certifications, years in industry, etc.)
Professor #1 - Full Time	EDF 8110	Ph.D. Curriculum & Instruction, University of Wisconsin – Madison (2010) Major: Educational Communication and Technology Minor: Administrative Leadership and Supervision M.S. Administrative Leadership and Supervision, University of Wisconsin – Milwaukee B.S. Elementary Education, University of Wisconsin – Milwaukee Licensure 42 Elementary – 1-6	2007 – 2012 District Technology Administrator, Oconomowoc Area School District, Oconomowoc, Wisconsin Computer Resource Teacher/Technology Integrator Oconomowoc Area School District, Oconomowoc, Wisconsin Elementary School Teacher, Milwaukee Public Schools, Milwaukee, Wisconsin Course Development and Recognitions – Developed 4 course sequence for STEAM Education Certificate, subsequently recognized by SC Department of Education as first STEAM Endorsement in the nation. STEAM Courses are 4 of 12 courses that comprise the #1 rated online Master of Education Program in the United States (U.S. News and World Reports). https://www.usnews.com/education/online-education/education/rankings Doctoral Student Advising CLEaR Lab (Connected Learning in Education and Research) – Founder and Director of biweekly doctoral lab aimed at forming research collaborations, creating proposals, examining methodological approaches, sharing scholarly work, and discussing pressing issues in the Learning Sciences. The lab also hosts a yearly research/poster session.

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Lecturer #1- Full Time	EDF 8200, EDF 8210, EDF 8220, EDF 8230, EDF 8070, EDF 8180	EdD Higher Education Leadership Maryville University, MEd Organizational Leadership Northcentral University	Teaching and developing courses online since 2009. Quality Matters Certified Peer Reviewer.
Associate Professor #1, Full-time	EDF 8110	PhD (Michigan State University), Educational Psychology and Educational Technology	
Lecturer #2- Full Time	EDF 8040, EDF 8110, EDF 8200, EDF 8210, EDF 8220, EDF 8230, EDF 8070, EDF 8120, EDF 8180	PhD in Learning Sciences (Clemson University, 2021); MS in Teaching (University of Tennessee, 2011); BA in Psychology (University of Tennessee, 2010)	Taught in K-12 education for 5 years; Taught and developed several online courses; Quality Matters Certified Peer Reviewer
Associate Professor #2- Full Time	EDF 8090	Ph.D Indiana University Educational Psychology; Inquiry Methodology (Double major) M.A.Beijing Normal University, China Educational and Developmental Psychology	
Principal Lecturer #1- Full Time	EDF 8070, EDF 8120, EDF 8200, EDF 8210, EDF 8220, EDF 8230	Doctor of Philosophy in Curriculum and Instruction, Clemson University Master of Education in Counseling and Guidance Services, Student Affairs , Clemson University Bachelor of Science in Environmental Sciences, The College of William and Mary	23 years teaching experience related to education technology, instructional design, multimedia learning, and online education
Associate Professor #3- Full Time	EDF 8040	1999, Bryn Mawr College, B.A. Psychology;	Five years teaching in K-12; Ten years teaching in higher education

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		2005, The College of New Jersey, M.Ed. Elementary Education 2013; University of Virginia, Ph.D. Educational Psychology- Applied Developmental Science	
Assistant Professor #1- Full Time	EDF 8040	PhD, Educational Psychology (concentration in Learning Science) MSW, Social Work BSW, Social Work	Previously worked as a clinical social worker and provided therapy to individuals, groups, and families.
Assistant Professor #2- Full Time	EDF 8120	Ph.D. University of Wisconsin-Madison (2017): Educational Psychology & Learning Sciences M.S. University of Wisconsin-Madison (2012): Educational Psychology & Learning Sciences M.A. Columbia (2008): Math Education B.S. University of Illinois-Urbana-Champaign (2007): Mechanical Engineering	7-12 Mathematics Education; Consulting for Gates Foundation & Sun Prairie, WI School District
Senior Lecturer #1- Full Time	EDF 8090	PhD in Curriculum & Instruction (Clemson University); MA in Elementary Education (Converse College); BA in Psychology (Wake Forest University)	Designed and taught EDF 8080; Clemson CoE Finalist for Excellence in Teaching (2021)
Instructor #1- Part Time	EDF 8180, EDF 8200, EDF 8210, EDF 8220, EDF 8230	PhD in Learning Sciences (anticipated 2024), Clemson University ABD in English Language and Literature, University of Delaware M.A. in English Language and Literature	Since 2015, I have worked in online education, first as an instructional designer, then as the Director of Online Education for Clemson's College of Education; in that role, I collaborate with faculty members to develop engaging, pedagogically sound online, HyFlex, and face-to-face courses and programs, provide discipline-specific pedagogical support and professional

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		(2008), University of Delaware B.A. in English (2006), Winthrop University	development for the College of Education, and develop and teach courses on effective online instruction.
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Total FTE (full-time equivalent) needed to support the proposed program

Staff: 0.25

Administrators: 0.00

Faculty: 1.33

Faculty, Staff, and Administrative Personnel

Discuss the Faculty, Staff, and Administrative Personnel needs of the program.

Currently, all program administration, faculty, and support staff are in place for the initial implementation of the Learning Sciences Master's Program

Resources

Library and Learning Resources

Explain how current library/learning collections, databases, resources, and services specific to the discipline, including those provided by PASCAL, can support the proposed program. Identify additional library resources needed.

The Clemson University Libraries' resources required for the proposed program are already in place and available online; therefore, there is no need for additional library resources. All major journals in the discipline are available online or through open access. The Clemson University Libraries hold more than 1.8 million items including books, periodicals, electronic resources, digital media collections, government publications and patents, musical recordings, maps and microforms. Over 4,000 print journal titles, 49,000 e-journals, 170,000 e-books, and 480 online databases are available. Cooper Library is linked electronically to the On-line Computer Library Center Inc. and WorldCat database providing access to more 71,000 libraries worldwide for interlibrary loan services. The PASCAL and Kudzu Consortium(s) provide access to 12 million volumes held by academic libraries in SC and 30 million volumes by 17 southeastern universities.

Students request journal articles through interlibrary loan and are emailed in 2-3 days. Reference librarians assist students by telephone, text, instant message and in-person consultation 79 hours per week. As is the case for all our colleges and academic programs, the College of Education and the field of learning sciences have dedicated research librarians. In addition to annual expenditures, current Library policy allocates additional funds for the exclusive purchase of materials for newly approved programs, if needed. No new funding is required to support the library and learning resources.

My Library Account: Students enrolled in off-campus, distance education, and online programs can log in to their My Library Account to search the Clemson Libraries catalog and request the delivery of print books. In addition to print books, Clemson affiliates have access to 458,239 electronic books via individual subscriptions, aggregator databases, and consortial agreements.

Books and Articles not owned by Clemson University Libraries: Students may use the PASCAL Delivers service to borrow books from any college or university in South Carolina. Requests are made

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through the Clemson University Libraries home page and delivered to a participating library. Students can borrow up to 25 books for six weeks, with an additional three-week renewal period.

If a book is not owned by the Clemson University Library and is not available via PASCAL Delivers, students may directly request the item from the Reference Librarian. Approved books will be rush ordered/cataloged and sent to the requesting patron, who will be responsible for returning them to Cooper Library (via either mail or return to a PASCAL Delivers library.)

Articles owned by Clemson University Libraries: Students requiring articles from print journals owned by the Library may request a scanned copy via <http://www.clemson.edu/culib/forms/secure/ill/emp/dd-rp.php>. Articles not available from Clemson University Libraries: Students also have free access to interlibrary loan to request copies of articles from journals not available at Clemson. Students must create an account prior to borrowing via the following website: <http://libguides.clemson.edu/ill>.

Reference Assistance: Students encountering difficulties finding resource materials may contact the Reference Librarian, who will respond to requests often immediately or within 24 hours. Students also have access to the Ask a Librarian service to request immediate assistance via phone/chat /text/ or email during normal Reference Desk hours.

Student Support Services

Explain how current academic support services will support the proposed program. Identify new services needed and provide any estimated costs associated with these services.

In addition to library and learning resources, a number of academic and student support services are available to all graduate students—including online students—at Clemson University:

- **Clemson Computing and Information Technology (CCIT)** – Provides a leading-edge integrated information environment integral to learning and research. Graduate students may (but are not limited to) take advantage of services such as Clemson email account, emergency text messages, mobile guidebooks, video conferencing, web development, and data storage. Help services are available via phone, email, or online chat.
- **Student Accessibility Services** – Graduate Students may register with Student Accessibility Services to use services such as academic access letters, assistive technology, communication services, test proctoring center and electronic textbooks.
- **Center for Career and Professional Development** – Clemson University is dedicated to engaging students in career development that will empower them to successfully pursue their educational and professional goals. Services provided by the career center include career workshops, resume writing, career development, job search assistance, and networking.
- **GRAD 360°** – A professional development program affiliated with The Graduate School that provides students with a structured way to develop and track their proficiency in the academic, personal, and professional focus areas known as “The Tiger 9”: career development; personal health, wellness and financial literacy; research and innovation; professionalism and ethics; leadership and management; teamwork and collaboration; teaching and learning; oral, written and intercultural communication; and social and global responsibility. Each student's development program can be tailored to meet their unique needs and interests. Students can identify their skills, interests, and values throughout their Clemson experience; engage their advisors in holistic advising and mentoring; acquire and develop specific skills necessary for postgraduate professional practice; and track their transformation by recording their experience in an online portfolio.
- **International Services** – The Office of Global Engagement's International Services area works with incoming international students to provide valuable information, service and advice to meet their unique needs. International Services is a valuable resource for international students’

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immigration, employment, and support needs, and works to create a welcoming, positive environment for Clemson's international student population to help them meet their academic and research goals while making sure their personal goals are taken into consideration.

- **Counseling and Psychological Services (CAPS)** – Counseling and Psychological Services (CAPS), the mental health department of Student Health Services, offers a wide array of services along a continuum of intensity for various psychological issues.
- **Graduate Student Life** – Operating under the Division of Student Affairs, this is a central body that collaborates with the Graduate School and Graduate Student Government to enhance the overall graduate student life experience.
- **Clemson University Writing Center** – The goal of the writing center is to help all members of the Clemson community become more confident and effective writers.
- **Clemson Online** – Clemson Online staff are dedicated to ensuring that all online students have access to the same resources and support that a first-class Clemson education comprises for students enrolled in programs having in-person modalities. Clemson University is devoted to ensuring an innovative and substantive educational experience for all students.

There are no new services need to support the proposed program.

Physical Resources/Facilities

Identify the physical facilities needed to support the program and the institution's plan for meeting the requirements.

All physical facilities (e.g., offices, classrooms, computing/IT equipment) needed to support the program are already in existence and associated with the current degree programs in the University's College of Education and its Department of Education and Human Development.

Equipment

Identify new instructional equipment needed for the proposed program.

All instructional equipment needed to support the program is already in existence and associated with the current degree programs in the University's College of Education and its Department of Education and Human Development.

Impact on Existing Programs

Will the proposed program impact existing degree programs or services at the institution (e.g., course offerings or enrollment)? If yes, explain.

☒ Yes

☐ No

There will be a curricular partnership between this newly proposed MEd in Learning Sciences (the Department of Education and Human Development in the College of Education) the Master in Human Resource Development program (Department of Educational and Organizational Leadership Development in the College of Education). This partnership has already been approved by the corresponding departments and department chairs. Both programs anticipate a potential increase in student enrollment in the required classes within their curricula that overlap each other.

Additionally, the existing Learning Sciences PhD program will be impacted in that some faculty members will need to extend or redirect teaching assignments in the proposed MEd Learning Sciences. Faculty members are anticipating this impact and have planned accordingly. For example, well-qualified doctoral

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students have been shadowing baccalaureate program courses in anticipation of serving as Graduate Teachers of Record when faculty members are slated to teach master's level courses. Finally, the Master's program could potentially serve as an entrée for those students interested in pursuing a doctorate in our PhD program, thus increasing student enrollment numbers in that program.

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Financial Support

Sources of Financing for the Program by Year												
Category	1st		2nd		3rd		4th		5th		Grand Total	
	New	Total	New	Total	New	Total	New	Total	New	Total	New	Total
Tuition Funding	\$121,260	\$121,260	\$218,423	\$218,423	\$257,686	\$257,686	\$282,005	\$282,005	\$315,572	\$315,572	\$1,194,947	\$1,194,947
Program-Specific Fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Special State Appropriation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reallocation of Existing Funds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Federal, Grant or Other Funding	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL	\$121,260	\$121,260	\$218,423	\$218,423	\$257,686	\$257,686	\$282,005	\$282,005	\$315,572	\$315,572	\$1,194,947	\$1,194,947
Estimated Costs Associated with Implementing the Program by Year												
Category	1st		2nd		3rd		4th		5th		Grand Total	
	New	Total	New	Total	New	Total	New	Total	New	Total	New	Total
Program Administration, Faculty/Staff Salaries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Facilities, Equipment, Supplies, and Materials	\$5,500	\$5,500	\$5,610	\$5,610	\$5,722	\$5,722	\$5,837	\$5,837	\$5,953	\$5,953	\$28,622	\$28,622
Library Resources	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other (Admin Overhead)	\$24,252	\$24,252	\$43,685	\$43,685	\$51,537	\$51,537	\$56,401	\$56,401	\$63,114	\$63,114	\$238,989	\$238,989

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TOTAL	\$29,752	\$29,752	\$49,295	\$49,295	\$57,259	\$57,259	\$62,238	\$62,238	\$69,068	\$69,068	\$267,612	\$267,612
Net Total	\$91,508	\$91,508	\$169,128	\$169,128	\$200,427	\$200,427	\$219,768	\$219,768	\$246,504	\$246,504	\$927,335	\$927,335

Note: New costs - costs incurred solely as a result of implementing this program. Total costs - new costs; program’s share of costs of existing resources used to support the program; and any other costs redirected to the program.

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Budget Justification

Provide an explanation for all costs and sources of financing identified in the Financial Support table. Include an analysis of cost-effectiveness and return on investment and address any impacts to tuition, other programs, services, facilities, and the institution overall.

The Master of Science in Learning Sciences will be funded and supported by existing faculty workload and tuition revenue. Tuition revenue is calculated using Online Tier 5 at \$430 per credit hour. There are no reallocated funds to support this program; however, faculty have agreed to teach the masters-level courses as counterparts to the existing doctorate-level Learning Sciences program. Therefore, there are no new Program Administration and Faculty and Staff Salary expenditures required for implementation. Marketing and Advertising is budgeted at \$5K per year, and an additional 10 percent is allocated for programmatic operating supplies for a total of \$5.5K in the first year. Non-salary expenses are estimated to grow 2 percent per year. The program is expected to generate a net contribution of \$246K by Year 5 without the increase of operating or additional personnel expenditures. Because the department will be utilizing existing faculty from the doctoral counterpart to teach the masters, additional faculty positions will be evaluated on an annual basis and will be funded by the program's net contribution. There are no other impacts on tuition rates, services, or facilities. Administrative overhead is calculated as 20 percent of tuition revenue and is returned to administrative departments to cover real costs of institutional program support.

Evaluation and Assessment

Program Objectives	Student Learning Outcomes Aligned to Program Objectives	Methods of Assessment
Students will examine the interdisciplinary nature of the learning sciences field.	Students will discuss and examine how to apply a broad and interdisciplinary approach to teaching and learning. Students will utilize a variety of data and research methods to demonstrate their understanding of learning sciences principles.	In EDF 8110, students will write and earn a passing grade on a reflection essay about how the discipline of the learning sciences has shaped or informed teaching and learning experiences. Assignments and final projects from HRD 8800 that demonstrate the student's ability to develop and implement a research plan that utilizes interdisciplinary approaches to address a problem in the student's area of interest.
Analyze and assess human learning in a variety of contexts	Students will analyze how environments are designed to foster teaching and learning. Students will identify and select a variety of quality assessments for measuring human learning, growth, and performance.	Students will evaluate existing digital environments and design and propose a digital learning environment prototype in EDF 8120. In EDF 8090, students will demonstrate their understanding of how to appropriately identify a variety of assessments (formative and summative) based on specific learning targets to effectively measure human learning and growth and provide quality feedback based on learners' performance.
Design and implement high-quality learning environments	Students will effectively develop and design an online teaching environment and or convert blended and seated classes into fully asynchronous teaching environments.	Students will construct an online course plan in EDF 8200 that clearly articulates the structure of the course, detailed course and module level objectives, formative and summative assessments, and incorporate various online course development best practices. Students will be assessed against a rubric, and proficiency will be determined based on students who receive a passing grade based on that rubric.

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	Students will apply various tools and technologies to enhance and supplement the learning experience in their online teaching environment.	In EDF 8220 students will be creating an online course technology plan wherein students will discuss and provide examples of how they can incorporate various tools into their teaching environment and work with students. Students will be assessed against a rubric and proficiency will be determined based on students who receive a passing grade based on that rubric.
Develop, deliver, evaluate, and revise effective learning strategies	Students will develop and deliver curricula, learning applications, and/or interventions for use in real-world settings and reflect on their effectiveness. Students will evaluate and revise curricula, learning applications, and/or interventions using foundational learning sciences scholarship and principles based on feedback from peers and instructors.	Assessment of this objective will be based on faculty evaluation of students' work product completed in coursework, including: • Evaluation of effective instructional design techniques and practices for developing curriculum, assessments, and multimedia. • Evaluation of iterative design, including revisions to intervention after application in real-world setting. • Outcomes and final projects from EDF 8070, EDF 8090, EDF 8110, EDF 8120, EDF 8180, demonstrating documentation of designed, performed, or reviewed curricula, learning applications, and/or interventions. Compare and contrast literature centered on the dynamics of teaching and learning in formal and informal environments that may include classrooms, schools districts, museums, corporations, non-profits, and homes (i.e., varied organizational and sociocultural contexts).

Explain how the proposed program, including all program objectives, will be evaluated, along with plans to track employment. Describe how assessment data will be used.

In accordance with Clemson University policy, all academic degree programs conduct annual self-assessments and performance reviews of program outcomes and student learning objectives. Findings are reviewed by the Department Chair and Graduate Program committee to ensure program quality. Findings are also shared through University's assessment data collection mechanism so that appropriate assessment coordinators at the College and University levels are apprised of results. The assessment data will be used to ensure we are meeting the program objectives and student learning outcomes. While the Office of Institutional Effectiveness utilizes several forms of graduates' employment outcomes past graduation (e.g., SteppingBlocks, US Census Bureau's PSEO, US ED College Scorecard), we will also be conducting a series of surveys (ie. Exit, alumni, employer, etc.) to track the employment of our students after their graduation.

Accreditation and Licensure/Certification

Will the institution seek program-specific accreditation (e.g., CAEP, ABET, NASM, etc.)? If yes, describe the institution's plans to seek accreditation, including the expected timeline.

☐ Yes

☒ No

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Will the proposed program lead to licensure or certification? If yes, identify the licensure or certification.

☐ Yes

☒ No

Explain how the program will prepare students for this licensure or certification.

If the program is an Educator Preparation Program, does the proposed certification area require national recognition from a Specialized Professional Association (SPA)? If yes, describe the institution's plans to seek national recognition, including the expected timeline.

☐ Yes

☒ No