



A Vision for the College of Lifetime Learning at Georgia Tech

Georgia Tech has a bold plan to establish a new College of Lifetime Learning. This would be our seventh college, and the first to be established in over 30 years. New degree programs will be a major component of this college, but they are not the only exciting aspect. The new college will have positive impacts for talent development in the future and existing workforce and will increase competitiveness for employers across the state. We seek to elevate the academic study of learning and to change the learning ecosystem, from K-12 to post-retirement. The College of Lifetime Learning will advance this field through education, research, outreach, service, and industry collaboration. This paper describes our purpose and plans for establishing the new college.

Educating the future learning and development workforce

Look at recent job openings in Georgia and beyond and you will notice a growing number of learning and development (L&D) roles, such as chief learning officer, senior learning director, or

learning analytics specialist. These roles are critical in retooling and retaining today's talent base. There were nearly 10,000 job postings for learning and development professionals during 2023, representing 35% growth between 2018 and 2023. These positions are increasingly common as companies and other organizations recognize that continuous learning and development of their workforce is critical in maintaining a competitive edge.

Next, review the education requirements for these L&D job postings. You will see that employers are seeking applicants with degrees in organizational development, education, educational technology, business administration, or human resource leadership, among others. While obtaining a degree in these fields will prepare an individual for some components of a role like chief learning officer, large parts of these degree programs are not particularly relevant for such a position, and nobody can be expected to have a background in each of these disparate fields.

In other words, the degree requirements in these L&D job postings generally are not tailored to leaders in the growing field of workforce learning and development, nor will they best prepare future L&D leaders who will rely on technology to play an even more pivotal role in learning. How will employers fill this need? What if programs were built specifically for future-oriented learning and development roles, centered around the science of learning and adoption of technology, and offered both here in Atlanta and digitally to students outside of the metro region.

The College of Lifetime Learning will create these tailored degrees. Corporations and other public and private organizations are investing in learning leaders who can drive their talent strategies and ensure their workforce remains agile and skilled in a rapidly changing business environment.

We aim to be the top institution for preparing future L&D leaders, meeting the new needs coming from employers and employees, enhancing Georgia's reputation as the best place to do business, and advancing economic development across the state and country.

How is learning evolving?

Examining the changing landscape of how people learn will illustrate why new degrees and other forms of employer valued learning credentials, and a new field of study around learning, are needed. The concept of 'learning' is familiar. It is the process of acquiring new knowledge, skills, attitudes, or values through study, experience, or teaching. Learning is not just about memorizing information; it involves understanding, applying, analyzing, and synthesizing knowledge to make informed decisions and solve problems. Learning happens in a variety of settings. Consider, for example, formal classroom education in K-12 and universities, hands-on training at a job site, or informal experiences in everyday life.

Technological advancements are transforming the way we learn, making education more accessible, personalized, and dynamic. The integration of digital tools and online platforms is

upending traditional learning methods. Here are a few examples of how technology is impacting learning:

- Adaptive learning platforms use algorithms to adjust the difficulty and type of content based on the learner's progress and performance.
- AI-driven tutors provide real-time feedback and support to learners.
- Interactive whiteboards combine sight, sound, and touch for an enhanced collaborative classroom experience.
- Virtual or augmented reality technologies create immersive learning environments with simulations and visualizations.
- Predictive analytics tools use data to forecast student performance, measure engagement, and identify at-risk learners, enabling timely interventions to support student success.
- Technology is changing how people learn, where they learn, and when they learn.

The rapid advancement of learning technologies, like other innovations, is disruptive in both positive and negative ways. Positive disruption occurs when technology removes barriers to access, increases engagement, lowers cost, or provides a more individualized and impactful learning experience. Negative results will occur if the increased use of new technologies leads to learner isolation, loss of privacy, achievement gaps for less resourced communities, or a decline in critical thinking skills.

Leaders and specialists in learning and development roles seek to amplify the positive impacts and minimize the negative. To effectively harness learning technology, L&D professionals must have a broad set of knowledge and competencies beyond the technology itself. They must also focus on understanding learner motivation, ensuring ethical and inclusive practices, navigating policy and regulatory landscapes, fostering continuous improvement and innovation, and designing sustainable business models. Preparing leaders in the L&D field requires an interdisciplinary approach.

L&D professionals also recognize that learning is about more than just technical skills. Learning improves digital literacy, creativity, critical thinking, emotional intelligence, and adaptability. They also recognize that learning cannot be isolated to the early years of a person's life or sporadic occasions in adulthood. Learning happens across an individual's lifetime, and a flexible learning mindset needs to be instilled during formative years. Then, as individuals progress through stages of life, their learning needs evolve based on their goals, career stages, and personal circumstances.

Technology is not just changing how people learn, but the study of learning itself. Leaders in L&D seek to make learning as easy as possible, but the interconnected learning ecosystem is more complex than ever.

A new field of study is needed, one dedicated to the systematic approach to technology-enhanced learning across one's lifetime. Georgia Tech's College of Lifetime Learning is the solution that will answer this demand. Through research, teaching and service at the intersection of technology, learning sciences, and business/policy models, the new college will transform the way we approach learning across the span of the individual learner's life.

Future Functions of the College of Lifetime Learning

As a college within an R1 research university, the College of Lifetime Learning will have a strong research focus. The faculty within the College will investigate, often with stakeholder participants, the process of learning throughout the lifetime as affected by technology, economics, policy, geography, and societal and workforce needs. Like other colleges at Georgia Tech, faculty will engage in both basic and applied research, and will seek external funding to support this research.

Recently, a group of Georgia Tech faculty with an interest in this field convened to discuss areas of research inquiry that the future college's faculty may pursue. A sampling of research areas and associated research questions that benefits employers could include:

- Learning analytics - How can learning analytics be used to assess the effectiveness of corporate training programs in improving employee performance and productivity, and what specific metrics (e.g., skills acquisition, job performance, employee retention) are most indicative of training success?
- Learning technology utilization, including AI - In what ways do AI-driven adaptive learning systems personalize instruction for students with diverse learning needs in K-12 mathematics, and what measurable impacts do these systems have on student achievement and engagement compared to traditional teaching methods?
- Assessing new learning ecosystems - How do integrated learning ecosystems that combine virtual classrooms, augmented reality experiences, and community-based projects affect the development of critical thinking and collaborative skills in high school students?
- Emerging career pathways - What are the specific skills and competencies required for emerging careers, and how can educational programs be structured to rapidly equip students of all ages with these skills through immersive, real-world problem-solving experiences?
- Remote work practices - What are the most effective strategies for facilitating continuous professional development and skill acquisition in remote work environments, and how do these strategies differ by industry (e.g., technology vs. healthcare)?

- Leveraging technology to improve access - How can mobile learning platforms be optimized to provide high-quality educational content to underserved rural communities, and what are the measurable impacts on student learning outcomes and engagement levels compared to traditional in-person instruction?
- Skill acquisition during periods of transition - What specific training programs and support mechanisms are most effective in helping professionals in the declining industrial sectors transition to roles in emerging industries, and how can these programs be tailored to address the unique challenges faced by mid-career workers?

The College of Lifetime Learning will apply our research knowledge in new academic programs that prepare graduates for a career in the emerging new learning and development field. New graduate and undergraduate degrees, credit-bearing certificates, and/or minors will be created, following Board of Regents approval processes. Graduates of these programs can apply their expertise in manufacturing and service industries, K-12 or higher education, government, and the non-profit sector. Graduate degrees would be the first set of new academic offerings. Conceptual degree programs are discussed in the next section of this paper.

The academic programs in the College will be interdisciplinary in nature and will incorporate a wide variety of core topics, such as:

- Learning Environments
- Instructional Design
- Student Support & Advising
- Learning Science
- Psychology of Learning
- Educational Related Public Policy
- Data Privacy
- Economics
- Data Analytics & Visualization
- Systems Thinking
- Working in Multidisciplinary Teams
- Design Thinking
- Statistics
- Education Business Policy
- Program & Project Management
- Coding

Georgia Tech has a strong foundation in non-credit professional education whose activities will be within the new college. Georgia Tech currently offers professional development courses,

certificates, and specialized training programs designed to meet the needs of working professionals and industry partners. By integrating these activities into the College of Lifetime Learning, we will leverage its established infrastructure and expertise to expand our offerings and reach a broader audience. This integration will allow us to provide pathways for lifelong learners, enabling them, and their employers, to advance their skills and knowledge continuously.

The new College will provide knowledge and experiences to the K-12 community (students and teachers). Georgia Tech has a long history of promoting STEM/STEAM education and supporting K-12 teachers and students through innovative programs, research initiatives, and partnerships with schools and communities. The College of Lifetime Learning will continue to play a critical role in fostering early interest in STEM fields and preparing the next generation of learners. The College will enhance existing efforts by incorporating the latest research and technologies in learning sciences, ensuring that K-12 education remains cutting-edge and aligned with the needs of the future workforce.

It should be explicitly noted that the College of Lifetime Learning is not a college of education. The new college will not be directly preparing teachers but will generate the new knowledge, and experiences needed by educators and industry alike. Unlike a traditional college of education, which primarily focuses on preparing individuals to become educators and instructional specialists within K-12 and, to a lesser extent, higher education settings, the College of Lifetime Learning addresses the broader spectrum of learning that occurs throughout an individual's entire life. The College will blend insights from various disciplines, including education. While active teachers may seek to advance their knowledge through the College of Lifetime Learning, it has a different audience and purpose than a traditional college of education.

Potential Degree Programs

The College of Lifetime Learning will offer innovative degree programs designed to meet the needs of lifelong learners and the demands of the workforce. Proposed degree programs will be developed by Georgia Tech faculty with collaboration from industry and government partners to ensure that they address current and future market needs. All degree program proposals will be submitted to the Board of Regents for approval through established processes.

Recently, a group of Georgia Tech faculty conceptualized new degree programs that align with employers' needs. The programs listed below are illustrative and not yet fully developed proposals:

Master of Science in Lifetime Learning

The MS in Lifetime Learning would create leaders who have a comprehensive understanding of learning sciences, technological acumen, and business attributes. This program will prepare graduates to effectively integrate educational strategies with business goals. Potential courses

may include Instructional Design, Educational Technology Integration, Human-Computer Interaction in Learning, Assessment and Evaluation, Learning and Memory, or Ethics and Policy in Learning Technologies. Examples of jobs graduates could pursue include chief learning officers, managers of continuous learning, learning engineers, and education policy analysts.

Master of Science in Learning Engineering

The MS in Learning Engineering would equip individuals with the skills to lead the design and architecture of effective and efficient learning systems throughout a person's lifetime. Potential courses may include psychology of learning, learning systems engineering, design studio, project management, or scaling learning solutions. Examples of jobs graduates could pursue include learning systems architects, learning platform analysts, managers of excellence in learning design, and assessment coordinators.

Master of Science in Technology-Augmented Learning

The MS in Technology-Augmented Learning would focus on developing expertise in using advanced technologies to enhance learning. Potential courses may include foundations of learning technologies, online design and pedagogy, introduction to AI, Human-AI interaction, foundations of game-based learning, and human-computer interface design and evaluation. Examples of jobs graduates could pursue include software engineers for instructional applications, educational technologists, user experience researchers for educational technologies, and technology integration specialists.

Master of Science in Learning Analytics

The MS in Learning Analytics would prepare students to collect, analyze, and interpret large datasets related to learning. This program aims to improve learning outcomes, inform policy, and enhance teaching practices. Potential courses may include computing for data analytics, introduction to analytics modeling, methods in educational data mining, learning experience data, and psychological statistics. Examples of jobs graduates could pursue include educational data scientist, learning analytics consultant, learning technologies developer, and policy advisor in education.

Demand

The greatest need for L&D in the workforce is in industries and roles that are undergoing rapid technological change, digital transformation, and skill evolution. These are areas where Georgia Tech's existing expertise is strong. Some sectors and areas with high demand for L&D professionals include:

- Technology and IT: With continuous technological advancements, the technology sector will require extensive L&D efforts to ensure that employees are equipped with the latest

skills and knowledge in areas such as artificial intelligence, cybersecurity, cloud computing, data analytics, and software development.

- **Manufacturing and Engineering:** Automation, robotics, and advanced manufacturing technologies are reshaping the manufacturing and engineering sectors, including automotive and aerospace industries. L&D professionals will train workers in new technologies, digital manufacturing processes, and advanced technical skills to optimize productivity and efficiency.
- **Finance and Banking:** Digital disruption is transforming the finance and banking sector, with a growing emphasis on fintech, digital banking, blockchain, and data analytics. L&D professionals will be needed to upskill employees in these areas and to promote a culture of innovation and digital literacy within financial institutions.
- **Education and Training:** As the demand for lifelong learning grows, there will be a need for L&D professionals in the education and training sector to develop innovative learning solutions, digital learning platforms, and online courses that cater to diverse learning needs and preferences.
- **Healthcare:** The healthcare industry is experiencing significant technological innovations, such as telemedicine, electronic health records, and medical devices. L&D professionals will play a crucial role in training healthcare professionals to leverage these technologies effectively while also ensuring compliance with regulations and best practices.

Learning and development is critical across each of these sectors, and each has increasing needs for professionals in the L&D field. Additionally, those in the K-12 sector need access to the same types of new knowledge, technologies, and insights from the College to prepare their workforce and the students. We anticipate the demand for the new degrees in the College of Lifetime Learning to be strong. We estimate that enrollment of 600 students will be achieved within the first three to five years of launch in any of the conceptualized degree programs.

Please see the appendix to this paper for letters from corporate leaders expressing support for the new College of Lifetime Learning. Each of these organizations recognizes the need for a skilled and adaptable workforce, professional L&D leaders to ensure their learning initiatives are effective and linked to organizational strategy, and a world-class institute of higher education where these professionals can be educated. These companies are headquartered in Georgia and other states. All have a global reach. If we move quickly, Georgia Tech can be a global leader in this emerging new field of technology-driven, adaptable learning across all stages of a person's life.

Competitors and Differentiation

While several institutions offer programs in learning sciences and educational technology, Georgia Tech's unique integration of technology, business models, and policy sets it apart. Our approach to creating citizens educated across their lifetime is also a differentiating factor. The College of Lifetime Learning will leverage Georgia Tech's strengths in engineering, computing, and innovation to create a leading institution in lifetime learning. Competitors in the field may include institutions like Stanford, Boston College, and the University of Michigan, which offer some related programs. Several USG institutions also offer programs in learning sciences, learning design, or instructional technology. However, Georgia Tech's emphasis on technology-driven solutions and its strong industry partnerships provide a unique opportunity. The College will focus on theoretical aspects of learning and on the practical application of these theories in real-world scenarios, making it a valuable resource for both students and employers.

Structure and Leadership

Importantly, the new College of Lifetime Learning will not be created from scratch. Currently, Georgia Tech has an academic division known as the Division of Lifetime Learning, formed in 2023 with the alignment of the Center for 21st Century Universities (C21U), the Center for Education Integrating Science, Mathematics, and Computing (CEISMC), and Georgia Tech Professional Education (GTPE). Each unit holds expertise in a particular area of the lifetime learning spectrum and they serve as national leaders, supporting learners in every phase of their life, from kindergarten through retirement. More specifically:

- C21U's researchers and technologists support Georgia Tech's mission by pushing the boundaries of higher education to bring our learners the most innovative technologies and resources. Much of C21U's research has existed in spaces not being pursued otherwise, interfacing with industry and the workforce to explore innovations in how we teach and learn.
- CEISMC is the primary connection point between Georgia Tech's faculty/students and the K-12 STEM/STEAM education community. It offers transformative student enrichment that maximizes students' potential through intensive problem-based teacher professional development, school-community partnerships for workforce development and student success, innovative curricula, and systematic research and evaluation to advance evidence-based best practices in STEM and STEAM.
- GTPE is Georgia Tech's global campus and adult lifetime learning arm. It offers programs for working professionals and industry partners in STEM and business worldwide, providing continuing education for more than a century and learning at a distance for more than 45 years.

The current personnel and budget of the Division of Lifetime Learning will become the foundation of the new College of Lifetime Learning. The elevation to a college and strategic talent acquisition, including new tenure-track faculty, will allow for an expansion in research opportunities, creation of degree programs, and increased reach and innovation. New revenues will be generated through the tuition and state funds generated by credit hours taught, new opportunities for grants and other sponsored funding applied for by our faculty and programs, expanded professional education offerings, and additional services to organizations seeking to enhance their L&D capabilities.

The College of Lifetime Learning will adopt a strategic approach to growth, avoiding duplication of efforts and focusing on activities that add significant value. Senior leadership positions will include a Dean and Associate Deans for Academic Affairs, Research, Learning Technology & Systems, and Access & Engagement. These leadership positions represent a restructuring of current positions within the organization, not the addition of a new level of administration. These leaders will work together to develop and implement the College's strategic vision, ensuring that it meets the needs of learners, industry and government partners, and the broader educational community. The College will also establish advisory boards comprising industry experts, alumni, and academic leaders to provide guidance and support.

Implementation Timeline

The transition to a College of Lifetime Learning will follow a phased approach. In the first phase (2024-2025), the College will establish faculty affiliations, governance structures, and initial degree program frameworks. This phase will involve extensive planning and consultation with industry partners and other stakeholders to ensure that the College is set up for success. In the second phase (2025-2026), the College will submit degree programs for Board of Regents approval, develop marketing and recruitment strategies, promote admissions, and faculty will initiate collaborative research projects and grant proposals. By 2026, the new college should enroll its first cohort of students, expand industry partnerships, and evaluate progress in anticipation of the next programmatic phase. This phased approach will allow for careful planning and execution, ensuring that the College meets its goals and objectives. Of course, while this implementation approach is ongoing, C21U, CEISMC, and GTPE will continue their daily work and existing research initiatives.

Conclusion

Now is the time for Georgia Tech to embrace bold and innovative action. The College and its emphasis on lifetime learning will advance USG's strategic goals of student success, economic competitiveness, and community impact while being responsible stewards of resources. Our institution is well known and respected for its leadership in innovative education. Georgia Tech is uniquely positioned and ready to launch a new field of study needed by industry and government to modernize the workforce.

The College of Lifetime Learning will serve learners of today and tomorrow across their lifetime, ensuring that Georgia Tech remains at the forefront of educational excellence and innovation and, more importantly, that Georgia has the workforce it needs to lead and maintain its status as the #1 place to do business.

Related readings:

- World Economic Forum, Future of Jobs Report 2023, The Future of Jobs Report 2023, [weforum.org](https://www.weforum.org)
- 2024 Educause Horizon Report teaching and learning edition, ISBN: 978-1-933046-20-4, 2024 EDUCAUSE Horizon Report | Teaching and Learning Edition | EDUCAUSE Library
- Shaping the Future of Learning: The Role of AI in Education 4.0, Insight Report, World Economic Forum, April 2024, <https://www.weforum.org/publications/shaping-the-future-of-learning-the-role-of-ai-in-education-4-0/>
- Guy Berger, Sherry Seibel, Scott Spitze, Suzanne Towns, “The Importance of Understanding Non-Degree Credential Quality”, BurningGlass Institute, April 2024, <https://www.burningglassinstitute.org/research/the-importance-of-understanding-non-degree-credential-quality>
- Flexible, Stackable, Certificates: The Future of Education, ISACA and UPCEA, December 2023, https://upcea.edu/wp-content/uploads/2023/12/Flexible-Stackable-Certificates-The-Future-of-Education_UPCEA-and-ISACA_December-2023.pdf
- Talent Supply Report, Atlanta Metro Chamber, Summer 2023, <https://www.metroatlantachamber.com/built-for-business/talentsupplyreport/>
- Enabling Learning for Life: New Realities for Work and Education, D2L, 2023, <https://www.d2l.com/wp-content/uploads/2023/06/06-JUN-WHITEPAPER-FUTURE-OF-WORK-2023-WEB.pdf>
- An Applied Science to Support Working Learners, Stanford University, January 2022, <https://workinglearners.stanford.edu/1> Boston Consulting Group. (2022, May 23).
- Shifting Skills, Moving Targets, and Remaking the Workforce. <https://www.bcg.com/publications/2022/shifting-skills-moving-targets-remaking-workforce>