

Advancing the Curriculum in Response to Job Market Needs

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Abstract

Higher education faces increasing imperatives to align curricula with evolving workforce demands driven by technological advancement, automation, and demographic transitions. This article examines Georgia Southern University's strategic response through a partnership between its Institute for Innovative and Integrative Studies (now University College) and the University Libraries to develop an Information Studies concentration within the Bachelor of Interdisciplinary Studies program. Library faculty successfully developed and implemented six new courses offering stackable, competency-based instruction in metaliteracy, data literacy, artificial intelligence, intellectual property, digital humanities, and special topics competencies valued in contemporary labor markets. Through systematic curriculum design, targeted professional development, and programmatic assessment frameworks, library faculty transitioned from traditional instructional support roles to delivering credit-bearing courses that integrate transdisciplinary competencies fundamental to workforce preparedness. This initiative demonstrates that academic libraries can evolve into substantive pedagogical partners, providing flexible educational pathways that enhance student readiness while addressing enrollment challenges through accessible interdisciplinary programming.

Keywords: *Information Studies; Metaliteracy; Workforce Readiness; Interdisciplinary Curriculum; Curriculum Innovation; University Libraries.*

1. Introduction

Technological change, automation, and demographic shifts are rapidly redefining the types of work available and the skills employers demand (Bocock et al., 2024). Research by NFER found that “essential employment skills” such as cognitive skills, emotional intelligence, communication, adaptability, and teamwork, are in short supply and that this mismatch could result in 22% of the workforce lacking the necessary skills by 2035 (Bocock et al., 2024).

According to Meyer et al. (2025), stackable credentials offer a way to upskill workers over time through short-term training pathways that lead to greater labor market returns. Meanwhile, 60% of cybersecurity job postings still require a degree, but demand for certifications and micro-credentials is rapidly growing as employers emphasize skills over traditional education (Saunders, 2020). Digital credentials are also reshaping workforce pathways by offering alternatives to the degree-first model and better aligning training with in-demand job skills (Shah et al., 2024).

Micro-credentials, badges, and other short-form learning packages are flexible, affordable, and designed to bridge skill gaps in fields such as data science, cybersecurity, and digital communications (Gamage & Dehideniya, 2025; JFF, 2023). The increase in digital jobs has been paired with a call for more accessible, stackable certifications to help students and displaced workers rapidly develop competencies (Andrew et al., 2024). For example, McIntyre et al. (2023) found that 83% of data science roles require a bachelor's degree, but there is growing recognition that skills gained through micro-credentials and practical projects often outweigh formal degrees in hiring decisions.

The evolution of the labor market is forcing a parallel shift in higher education. Unbundling traditional degree programs into modular, competency-based offerings like micro-credentials allows institutions to serve a broader, more diverse population (Yildirim et al., 2025). Micro-credentials are typically shorter in duration, focused on targeted competencies, and often industry-aligned, making them highly responsive to employer needs (Santally et al., 2024). This approach challenges the notion that a four-year degree is the only pathway to economic mobility and encourages lifelong learning (Bloomberg, 2024).

As employers demand work-ready graduates, higher education institutions are integrating career-connected learning models based in interdisciplinary studies. These emphasize internships, certifications, and capstone projects that mirror real-world expectations (Williams et al., 2024). The Association of Public and Land-grant Universities (APLU) found that universities investing in non-degree pathways and experiential learning better positioned students for economic opportunities and regional workforce needs (Shanks, 2024).

The U.S. is also experiencing a dramatic shift in college-going demographics, often referred to as the "enrollment cliff." Driven by declining birth rates since 2008 and economic uncertainty, projections show a potential 5-10% drop in college enrollment starting in 2025 (National School Boards Association, 2025; Lane et al., 2024). States like Maryland have proactively expanded dual-enrollment, adult learning programs, and short-term credentials to offset these losses (Maryland Higher Education Commission, 2025).

As Schuette (2023) notes, traditional student pipelines are shrinking, and institutions must diversify their recruitment strategies and embrace flexible, work-based credentials. This

includes recognizing prior learning, expanding online education, and targeting adult learners, veterans, and part-time students.

Library and Information Science/Studies (LIS) programs are at the intersection of digital transformation and the changing education landscape. LIS professionals manage, curate, and analyze data across sectors, and their roles increasingly require fluency in data science, cybersecurity, and user-centered digital services (Krystina, 2020). LIS programs have begun to adopt micro-credentials and certificate programs in areas like metadata management, digital archiving, and analytics to align with employer needs (Shah, et al., 2024).

Moreover, information studies are well-positioned as an interdisciplinary field to respond to calls for ethical and equitable data governance, an area of growing importance across industries (Schuette, 2023). By incorporating interdisciplinary training and emphasizing transferable skills, information science can continue to adapt and thrive within this shifting ecosystem of work and learning.

2. Literature Review

A survey of current literature examining the higher education landscape reveals several catalysts necessitating an alignment of university curriculum with workforce demands. The COVID-19 pandemic, rise of generative artificial intelligence, increased attention to personalization of learning (Zhao & Watterson, 2021), the demographic cliff (National School Boards Association, 2025; Lane et al., 2024) microcredentialing (Raj, et al, 2024) and focus on return on investment and accountability (Reddick, 2024) have shifted the direction of higher education calling for the need to refine curriculum. Higher education has long served as a path for socioeconomic mobility and improved quality of life; however, recent technological and societal shifts have required that colleges and universities demonstrate their value in new innovative ways. Students obtaining a college degree are challenged with being ready for their careers and translating what they have learned in their programs to their jobs immediately upon entry into the workforce. Law (2022) notes that university curriculum serves a vital role bridging the gap between classroom learning and career readiness. Curriculum must continuously be refined to meet evolving societal needs and industry demands. An effective curriculum is holistic and fosters interdisciplinary skills and innovation to ensure learners can compete in the current job market (Law, 2022).

For many years, library faculty have leveraged their expertise as information professionals to integrate interdisciplinary skills such as information literacy, data literacy, media literacy and others into the curriculum through single-session instruction in various courses and collaborative partnerships with colleagues in all disciplines. These skills help students become better problem solvers to meet the needs of the 21st century and workforce demands. Tawfik et al. (2021) note that “the recent focus on inquiry-based learning, self-directed learning, and

information-seeking behavior suggests that more interdisciplinary initiatives are required...” (p. 1-2). Several universities have expanded single session instruction delivered by library faculty to credit-bearing courses focused on information literacy. The most recent survey of academic libraries conducted in 2016 reports that out of 3,814 U.S. institutions, 19% taught credit bearing information literacy courses (Cohen et al., 2016). Fewer universities integrate a minor or concentration taught by academic library faculty, but library faculty are well positioned to teach multiple courses that integrate transdisciplinary skills that support workforce readiness, not just information literacy courses (Howard et al., 2025). Formalizing an Information Studies curriculum ensures that students learn meta-skills that apply to any career path, rather than assuming they will learn these skills on their own or that they have already learned them prior to enrollment at the university.

3. Institutional Background

Georgia Southern University, GA, USA, is a comprehensive university with a current Carnegie Classification R2 and on the brink of transitioning to R1. The university was recently designated a Carnegie Community Engaged University and we are actively seeking the Carnegie classification of Opportunity Institution. The university has several campuses and approximately 30,000 students, including students from all 50 states, two territories and 140 countries. One of the responses to the changing job market demands was the establishment of an Institute for Innovative and Integrative Studies (I3S) in addition to its 10 colleges offering undergraduate, graduate and doctoral degrees. Committed to fostering careers, igniting innovation, and shaping success, the I3S breaks down traditional silos and fosters cross-disciplinary collaborations that mirror the dynamic landscape of today’s and tomorrow’s industries. The I3S hosts the Bachelor’s Degree in Interdisciplinary Studies (BIS), which offers a number of concentrations corresponding with the new job market demands. The institute caters to students seeking to specialize in their current field, eyeing a career change, or exploring the unfamiliar, through stackable programs that offer the freedom and flexibility to adapt both new and returning students’ education to their evolving career aspirations. Believing in the power of education for all, the I3S is committed to making learning accessible and affordable. Currently the institute transitioned to becoming a University College.

4. GS University Libraries: Curriculum Development and Instruction

The University Libraries established an Information Studies Department and partnered with the I3S/University College by developing and teaching one of the required core courses for the BIS degree, INFO 2530: Metaliteracy Skills, followed by the development and teaching of an Information Studies concentration within the BIS degree program. The curriculum of the concentration included the development of four additional new courses: INFO 3130: AI &

Society, INFO 3530: Data Literacy, INFO 4530: Intellectual Property & Information Rights, which are required courses for students credentialed with the Information Studies concentration, as well as INFO: 3030-Special Topics in Information Studies, an elective course. The University Libraries also partnered with the History Department in teaching INFO/HIST 2300 - Introduction to Digital Humanities, also included in the concentration. In addition to the three required concentration courses listed above, students in the concentration must take four additional elective courses from the concentration curriculum, the majority of which are cross-referenced from the offerings of other colleges and departments.

The Information Studies concentration pioneered a foundational course focused on metaliteracy. Metaliteracy encourages students to actively engage with information in the digital environment fostering reflection, critical thinking, and collaboration in creating and consuming content (Mackey & Jacobson, 2011). Students develop skills for both academic and professional contexts, helping them adapt to new challenges and opportunities in the workplace and beyond by developing a growth mindset. Other courses addressing various aspects of metaliteracies were added to the concentration. INFO 3130: AI & Society explores the societal impact of artificial intelligence technologies, INFO 3530: Data Literacy develops students' analytical and data evaluation abilities, INFO 4530: Intellectual Property & Information Rights covers fundamental legal and ethical considerations of information, INFO 3030: Special Topics in Information Studies helps students build critical competencies needed to manage and evaluate information in modern environments, and INFO 2300: Introduction to Digital Humanities connects the humanities with the digital world.

Library faculty developed course content based on specific student learning outcomes and created assignments employing active learning techniques and assessment rubrics. Professional development opportunities were provided at the institutional and departmental levels. Library faculty had an opportunity to observe and co-teach before teaching on their own.

5. Assessment and Improvement Plans

Assessment occurs at every stage of the concentration. We evaluate student success starting at the course level and scale up to ensure effectiveness across all courses and alignment with departmental and institutional standards. Course evaluations are administered to students at the end of each semester, and are an effective tool for faculty to identify areas for improvement. As part of the accreditation process, three student learning outcomes (SLOs) have been selected from a sampling of the courses to measure effectiveness at the concentration level utilizing a programmatic approach to assessment for continuous improvement. Assessment of the SLOs are conducted using detailed rubrics designed to assess a specific assignment.

Students received the rubrics at the beginning of the semester to ensure they understand the expectations for demonstrating mastery of the learning outcome. Instructors grade students

noting any trends that may warrant adjustments in the assignment instructions, teaching of particular concepts or adjustments to the rubric. At the end of each semester faculty who have taught the courses selected for programmatic assessment meet to work on their reflections of teaching from that semester. Reflections involve analyzing student performance against a rubric to identify gaps in student mastery and the clarity of assignment instructions. By evaluating peer feedback and specific project reflections, faculty can determine if the curriculum needs more depth or if the rubric itself requires calibration to better measure student success.

6. Challenges and Solutions

Institutional culture plays a major factor in the implementation of an Information Studies concentration. Credit-bearing instruction by library faculty was a new development. The University Libraries established a partnership with the Bachelor of Interdisciplinary Studies degree program. Library faculty, who had not yet taught semester-long courses, engaged with appropriate professional development. As the Information Studies concentration enters its third semester, faculty, having now rotated through lead and collaborative teaching roles, share a revitalized sense of accomplishment. This momentum has spurred library faculty to deepen their professional development that leverages their unique expertise to enrich the curriculum.

7. Conclusions

The development of the Information Studies concentration at Georgia Southern University demonstrates a successful model for academic libraries transitioning from traditional service providers to active pedagogical partners in response to evolving workforce demands. This initiative illustrates how libraries can leverage their interdisciplinary expertise to address critical skill gaps identified in the literature, including cognitive abilities, emotional intelligence, adaptability, and digital competencies (Wadhwa et al., 2025; Khan et al., 2022; & Nguyen, 2024) that employers increasingly prioritize over traditional degree pathways alone.

The concentration's stackable credential structure and integration of metaliteracy, data literacy, artificial intelligence literacy, and digital humanities aligns with national trends toward micro-credentials and competency-based education. By offering flexible pathways through elective course variations drawn from multiple disciplines, the concentration serves diverse student populations, including adult learners, career changers, and those seeking to enhance employability in rapidly transforming labor markets. The systematic approach to curriculum development, faculty professional development, and programmatic assessment establishes a replicable framework for other institutions seeking to innovate.

References

- Andrew, M., Kushner, J., Greer, L., Mulhern, C., Kramer, J. W., & Schwam, D. (2024, December 9). *Growing the computer science and information technology workforces in Ohio*. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA3449-1.html
- Bloomberg, L.D. (2024). Re-aligning higher education and employability: Stackable skills are the new currency as online modalities pave the way. *International Journal of Online Graduate Education*, 7(1), 1-19. <https://files.eric.ed.gov/fulltext/EJ1432804.pdf>
- Bocock, L., Segura, J.M., Hillary, J. *Rethinking skills gaps and solutions Working Paper 4 of The Skills Imperative 2035: Essential skills for tomorrow's workforce*. (2024). National Foundation for Educational Research. <https://files.eric.ed.gov/fulltext/ED676550.pdf>
- Cohen, N., Holdsworth, L., Prechtel, J. M., Newby, J., Mery, Y., Pfander, J., & Eagleson, L. (2016). A survey of information literacy credit courses in US academic libraries. *Reference Services Review*, 44(4), 564-582. <https://doi.org/10.1108/RSR-03-2016-0021>
- Gamage, K. A. A., & Dehideniya, S. C. P. (2025). Unlocking career potential: How micro credentials are revolutionising higher education and lifelong learning. *Education Sciences*, 15(5), 525. <https://doi.org/10.3390/educsci15050525>
- Howard, H., Heyns, E. P., Hannah, M. N., Zwicky, D., & Maybee, C. (2025). Information studies: Library development of an undergraduate curriculum for the information age. *The Journal of Academic Librarianship*, 51(3), <https://doi.org/10.1016/j.acalib.2025.103044>
- Jobs for the Future (JFF). (2023). Digital jobs and credentials: Labor market analysis. [https://info.jff.org/hubfs/Digital%20Jobs%20and%20Credentials%20%20Labor%20Mark et 20Analysis_Final.pdf](https://info.jff.org/hubfs/Digital%20Jobs%20and%20Credentials%20%20Labor%20Market%20Analysis_Final.pdf)
- Khan, N., Sarwar, A., Chen, T. B., & Khan, S. (2022). Connecting digital literacy in higher education to the 21st century workforce. *Knowledge Management & E-Learning*, 14(1), 46–61.
- Krystina, A. (2020). A Text Analysis of Data-Science Career Opportunities and US iSchool Curriculum. *Journal of Education for Library and Information Science*, 61(2), 270–293. <https://utppublishing.com/doi/10.3138/jelis.2018-0067>
- Lane, P., Falkenstern, C., & Bransberger, P. (2024). *Knocking at the college door: Projections of high school graduates* (11th ed.). Western Interstate Commission for Higher Education. <https://www.wiche.edu/knocking>.
- Law, M. Y. (2022). A review of curriculum change and innovation for higher education. *Journal of Education and Training Studies*, 10, 16–23. <https://doi.org/10.11114/jets.v10i2.5448>
- Maryland Higher Education Commission. (2025). *Annual report on student enrollment and demographic changes*. ERIC. <https://files.eric.ed.gov/fulltext/ED676259.pdf>
- McIntyre, A., Sanchez, T., & Hsu, M. (2023). *Exploring the skills needed by the data scientist*. SAS Global Forum. <https://iowasasuser.org/wp-content/uploads/2023/06/Exploring-the-Skills-Needed-by-the-Data-Scientist-2023-sasNerd.pdf>
- Meyer, K. E., Bird, K. A., & Castleman, B. L. (2025). Stacking the deck for employment success: Labor market returns to stackable credentials. *Journal of Human Resources*, 60(1), 129–152. <https://doi.org/10.3368/jhr.1120-11320r2>

- National School Boards Association. (2025). Durable skills: Enhance career and technical education in the age of artificial intelligence. Center for Public Education. <https://files.eric.ed.gov/fulltext/ED672685.pdf>
- Nguyen, T. P. (2024). Employability Discourse in Digital Literacy Frameworks: Analysis in Australian University Libraries. *Journal of the Australian Library & Information Association*, 73(4), 485–504. <https://doi.org/10.1080/24750158.2024.2380541>
- Mackey, T. P., & Jacobson, T. E. (2011). Reframing information literacy as a metaliteracy. *College & Research Libraries*, 72(1), 62–78.
- Raj, R., Singh, A., Kumar, V., & Verma, P. (2024). Achieving professional qualifications using micro-credentials: A case of small packages and big challenges in higher education. *International Journal of Education Management* 38(4), 916–947. <https://doi.org/10.1108/IJEM-01-2023-0028>
- Reddick, C. G., & Ponomariov, B. (2024). The effects of institutional factors on the return on investment of a university education in the United States of America. *Quality in Higher Education*, 30(2), 185–199. <https://doi.org/10.1080/13538322.2022.2158518>
- Santally, M.I., Rajabalee, Y.B., Cooshna-Naik, D., & Greller, W. (2024). Perception of education and industry leaders on micro-credentials and their potential in higher education. *Journal of Learning for Development*, 11(3), 528–539.
- Schuette, A. (2023). *Navigating the enrollment cliff in higher education*. Trellis Company. <https://files.eric.ed.gov/fulltext/ED628984.pdf>
- Shah, Z., Galindo, M., Aso-Hernandez, C., Luke, C.L., Lee, K., Weisgrau, J., Solorzano, T., & Jacons, B. (2024). The promise of micro-credentials and learning and employment record technologies for youth and K-12 schools. ERIC. <https://files.eric.ed.gov/fulltext/ED671225.pdf>
- Shanks, L. (2024). Accelerating career readiness: A report on career innovations at APLU institutions. Association of Public and Land-grant Universities. <https://files.eric.ed.gov/fulltext/ED662136.pdf>
- Tawfik, A., Haggerty, K., Vann, S., & Johnson, B. (2021). Rethinking the role of the library in an era of inquiry-based learning: Opportunities for interdisciplinary approaches. In Hokanson, B., Exter, M., Grincewicz, A., Schmidt, M., & Tawfik, A.A. (Eds.) *Educational Communications and Technology: Issues and Innovations* (pp. 1–11). https://doi.org/10.1007/978-3-030-53875-0_1
- Yildirim, G., Kir, S., & Bozkurt, A. (2025). Towards a future of qualifications: A systematic Review of micro-credentials. *Online Learning*, 29 (4), 535–559. <https://doi.org/10.24059/olj.v29i4.4969>
- Wadhwa, S., Rana, B., & Bajaj, K. (2025). Digital literacy in higher education: Preparing students for future workplaces. *Advances in Consumer Research*, 2(4), 1527–1532.
- Williams, C., Thornton, J., Hughes, E., Fox, K. (2024). Expanding internships: Harnessing employer insights to boost opportunity and enhance learning. *Business-Higher Education Forum*. <https://files.eric.ed.gov/fulltext/ED664889.pdf>
- Zhao, Y., & Watterson, J. (2021). The changes we need: Education post COVID-19. *Journal of Educational Change*, 22, 3–12. <https://doi.org/10.1007/s10833-021-09417-3>