

External Reviewer's Report

Cyber Leadership and Intelligence (CLI) College of Arts and Sciences, Dakota State University

Dr. Jacob Shively

Associate Professor, Reubin O'D. Askew Department of Government

University of West Florida

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Part 1: Executive Summary of Findings

CLI at Dakota State University is a robust and innovative program. By all accounts, it is delivering an education that for students is both immediately practical and intellectually enriching. For the university, it cultivates and extends DSU's comparative strengths. For the state and the region, the program provides a reliable partner for cultivating talent and centralizing expertise.

Program Goals and Strategic Alignment

CLI's Program Learning Outcomes (PLOs) integrate analytical thinking with technical knowledge, preparing students to develop security plans, understand global frameworks, and apply critical skills in leadership. These PLOs, while general, meet national standards and are being refined. Consistent with DSU's mission, the program's unique interdisciplinary blend of social sciences, humanities, and cyber concepts fosters reflection on technology's human impact.

The CLI Advisory Board is vital. It provides industry feedback that keeps the curriculum current with workforce needs, such as the demand for technology-conversant graduates. CLI offers a distinct program that stands out from typical cybersecurity tracks, which are often an addendum to another program rather than a distinct major. The program's regional reputation is growing, and on campus, it has supported ongoing innovation and growth, such as the new Data Privacy master's degree.

Resources, Curriculum, Growth, and Assessment

CLI operates efficiently with modest resources. Faculty are the program's core asset. Students praise their classroom dedication and strong advisory support, both of which support retention and outcomes. Faculty expertise aligns with program needs across political science, history, and sociology.

The curriculum is innovative and well-targeted. Students value the material for fostering critical thinking, skills development, and real-world relevance. Core CLI courses are uniquely tailored for the major. Students report broad satisfaction with both the Digital Forensics and the World Affairs and Human Behavior specializations, and each displays similar levels of enrollment and placement.

CLI shows consistent enrollment growth, even as national college numbers decline. Graduation rates meet or exceed targets, and student placement is impressive, with internships proving crucial for job acquisition. While program assessment faces challenges from its multidisciplinary nature and recent curriculum updates, these revisions also reflect a commitment to continuous improvement.

Challenges and Recommendations

Despite these strengths, challenges exist. This comprehensive program review found no urgent issues but offers recommendations for ongoing campus discussions to enhance long-term success. Key suggestions include refining broad Program Learning Outcomes for clearer

assessment and considering updates to curriculum areas such as OSINT, AI, leadership development, and intelligence studies. While current faculty are effective, the program operates with limited personnel, which poses sustainability concerns as enrollment grows. Investment in Criminal Justice faculty and clearer procedures for faculty transitions are advised. Additional recommendations include improving integration with Digital Forensics, enhancing student data literacy, and modest curricular additions to the minor. Faculty and administration would also do well to address confusion regarding the program's name, an issue that may affect program recruitment, student experience, and graduate employment.

In Sum

CLI is a robust program with strong student outcomes. It displays a successful model blending cybersecurity, policy, and liberal arts, and it is well-positioned for further growth with strategic planning and investment.

In the following sections, Part 3 presents the reviewer's overall observations and findings. Based upon these findings, Part 4 presents recommendations organized in the same categories. Ultimately, this is a strong program, so what appears are suggestions designed to set the parameters for further discussion among CLI's key stakeholders and decision makers.

Part 2: Schedule of On-Site Visit

Friday April 25, 2025

9:00-9:30 AM Provost Hoey/Dean Berry, Heston Hall 309

9:30-10:00 AM Sarah Rasmussen-Director of Online Education, Heston Hall 210

10:00-10:30 AM Free time, Heston Hall 210

10:30-11:00 AM Jeanette McGreevy-Director of Institutional Effectiveness, Assessment, and Policy, and Sierra Heppler, Director of Institutional Research, Heston Hall 210

11:00-11:30 AM Dr. Bill Bendix – campus tour

11:30- 12:00 AM Free time

12:00-1:00 PM Lunch with CLI faculty, Science Center 133

1:00-2:00 PM CLI faculty (Dr. Bill Bendix, Dr. Viki Johnson, Dr. Kurt Kemper, Dr. David Kenley via Zoom), Science Center 133

2:00-2:30 PM CLI majors, Science Center 133

2:30-3:30 PM Free time, Science Center 133

3:30-4:00 PM Provost Hoey/Dean Berry/Dr. Bendix, Heston Hall 309

Travel Details:

April 24th Arrive Sioux Falls 5:00 pm/lodging Aerostay 605-335-1800 (located next to the airport)

April 25th Dr. Bendix will pick up and take back/lodging Aerostay

April 26th Depart Sioux Falls 6:21 am

Part 3: Program Evaluation, organized by focus areas for review

Program Goals and Strategic Planning

CLI lists several Program Learning Outcomes (PLOs). These serve as the program's core goals and are as follows:

- develop an information security plan or other strategies to mitigate cybersecurity risks
- explain social, cultural, political, and economic frameworks at a national and international level
- apply reading, writing, critical thinking, and analytical skills to leadership practices.

The SDBR also requires cross-curricular student proficiency. The full list for these skills appears on pages 25-26 of the Self-Assessment, but examples include Information Literacy, Civic Knowledge and Engagement, and Integrative Learning.

Taken together, these goals are a distinct mix that represent the agenda of a classic liberal arts education paired with the specific needs of a contemporary and technically-oriented career path. They combine practical application with conceptual development. Consistent with standards across higher education institutions, they represent aspirational trajectories as well as discrete and actionable outcomes.

Overall, CLI's PLOs comport with national standards. They effectively link analytical and comprehensive thinking as well as verbal and written skills with specific technical knowledge.

Still, they are also very general—another common feature of all such statements—and the self-assessment hints at this: “CLI faculty are revisiting and refining the PLOs to enhance the program's ability to leverage assessment data for meaningful, data-driven improvements.” (p. 25)

Program Goals Relative to Institutional Mission

DSU's stated mission is “to prepare cyber-savvy graduates who are lifelong learners, problem solvers, innovators, and leaders to live lives of positive purpose and consequence.” In addition, DSU has been identified by the SDBOR as “a ‘special focus’ STEM University with an emphasis in computer management, computing information technologies, cybersecurity, and related undergraduate and graduate degrees.” CLI's intent, design, and implementation closely fit these goals. Knowledge of and engagement with cyber concepts and practices is integral to the program's core courses. Students themselves reported growing confidence with these topic areas.

Further, CLI is uniquely positioned on campus and possibly in the state to foster student reflection and community engagement on questions of “liv[ing] lives of positive purpose and consequence.” It expressly integrates social sciences, humanities, and cyber. In a similar fashion, classical liberal arts education is designed to help students reflect on traditional texts as well as modern and contemporary knowledge. CLI's distinct blend of courses reflects this tradition. Its

students and faculty are well positioned to lead discussions that grapple with the human and social implications of emerging technologies.

In this context, the **CLI Advisory Board** is also a strong component of the program. Feedback from this group assists the program leaders to balance academic quality, stability, and specialization with entry-level workplace needs. It convenes regional community leaders and employers, typically in biannual meetings. In this way, it is a direct line to seek feedback on both the curriculum and student experience, and it allows CLI faculty to translate the program for employers and community members. The board's composition is wide enough that new challenges and emerging topics are usually well covered. For example, as AI chatbots burst into use among organizations and businesses, board members stated that they were seeking graduates conversant in this new technology and skilled with generating analysis and outcomes based upon written commands. In turn, CLI faculty could both integrate these updates to their class work in addition to discuss with employers the ways in which the social science and humanities component of their degree was a natural fit for these demands.

Program Goals Relative to Current National Trends and Forecasts

CLI may be situated at the forefront of national trends. CLI is defined by the intersection of skills and substantive knowledge typically studied in different disciplines, and few institutions offer a comparable program. Typically, existing programs in a given field, such as public policy or international relations, create a cybersecurity track within the field. CLI is distinct in that it is fully integrated, and its particular “leadership and intelligence” may be wholly unique.

As the self-report states, national trends in this particular field are difficult to assess, but faculty display **strong awareness of major trends and challenges**. These include AI, misinformation, and OSINT (Open-Source Intelligence) alongside well-worn topics such as national security, law, and digital forensics. In particular, members of both administration and faculty reflected an interest in exploring how CLI might expand coursework and other training related to OSINT. Its students are already trained to seek, evaluate, and integrate multiple streams of information. Similarly, CLI students may be particularly well-positioned to interface with **large language models (LLMs)** and related tools as AI trainers, AI product managers, and so forth. Developing facility with written and verbal analysis, as well as a broad grounding in history, sociology, politics, and so forth, these majors find themselves positioned to grow with new AI applications.

Misinformation and, in turn, online influence campaigns, are also a growing field of interest for students, public officials, and employers; however, these areas may prove to be less viable for CLI at DSU. The ability to identify misinformation campaigns and establish procedures and standards to mitigate that challenge is valuable, and CLI students are better positioned than most to move into this field. Misinformation, however, is a well-established concept and practice extending back to the beginnings of movable type and printing presses. It was, for instance, a common feature among Cold War intelligence agencies. For that reason, the scholarship and practice in that field are well-developed and narrow. This may be a poor fit for CLI, which is working with limited faculty resources and focused on students who may start their careers as generalists ready to specialize.

CLI also appears to enjoy a **growing local and regional reputation** for graduates able to engage cyber policy and analysis. The program provides a pipeline for employers seeking graduates who are conversant in the technical, policy, and interpersonal demands of fields like data privacy and regulation. Indeed, DSU's new developing Data Privacy MS is housed in a different college but was inspired in part by CLI's success and the steady demand for students familiar with cybersecurity, data management policy, and similar technical skills but also trained with a background in articulating policy and social analysis.

Program Resources

Like similar institutions, DSU remains efficient and nimble with limited resources. In fact, CLI embodies this ethic by overlapping traditional fields so that faculty can simultaneously engage multiple fields. In terms of basic resources such as office and classroom space, resources appear to be standard for US higher education institutions. In general, social sciences and humanities programming can deliver relatively strong ROI because their costs are relatively low without special labs or other high-end infrastructure.

Given that the program requires relatively little hard infrastructure, this review focuses on personnel as CLI's key resource.

Faculty and Faculty Credentials

Without hesitation, members of the student interview group agreed when asked about the best aspect of their program: **"The professors."** They expressed comfort with approaching and interacting with faculty, whom they believe to be working hard to serve their interests as students. "There are no bad professors," one student explained to general agreement, "They're all great."

Student enthusiasm may arise partly from the faculty's central role in the student experience. CLI's opportunities for **student support** appear to be strong. The student research funding and support for field trips offer important opportunities to link the classroom to the world of practice. Further, having each student paired with a faculty advisor is a simple but powerful method to help root students in their major and on campus. In this way, students have a direct "home base" as well as a personal connection. Faculty and students both reported that this is a helpful approach. Note, however, that this approach is also time-intensive. Faculty may already be at the limits of their capacity to manage both teaching and advising. As the program grows, existing faculty will struggle to manage a larger load and, in turn, the benefits for students will decline.

In addition to student support, **faculty expertise** and teaching areas appear to align with national standards and programmatic needs. Core CLI faculty display strong backgrounds in political science, history, and sociology, while the program also includes faculty and instructors with area studies, military, and other related professional and academic experience.

A note of caution, however, is that the program **faculty are a thin line**. Each faculty contributor offers an important piece of the program, so any change in personnel status—anything from a promotion to professional leave to a health issue—may create challenges to meet the program's

curricular needs. Many of Dr. Bendix's course offerings in particular have been developed expressly for this program and serve as the core and distinctive courses for CLI. Under current conditions, these may be difficult to meet without him.

Finally, **DSU's overall college organization** allows for an interdisciplinary program like CLI to remain nimble, and administration remains organizationally close to their faculty and programs, which allows close knowledge of the program. Where other universities might struggle to work across disciplinary silos, DSU faculty appear to be able to work with relatively low barriers across disciplines. On the flip side of this advantage, however, faculty teaching and advising loads leave them with relatively little extra space to cultivate new programming, ongoing scholarship, and so forth. New and ongoing course preparation, for example, is highly time-consuming. CLI is maximizing its faculty and instructors, but for that reason, new growth and innovation may be relatively more difficult to achieve under current conditions.

Financial Support

The program self-assessment states that faculty enjoy "robust funding for professional development." (p. 19) In addition, the college and university support occasional guest lectures and other types of community engagement alongside the student programs for internships and the CLI Advisory Board. Given faculty teaching loads, these opportunities may be difficult to leverage. Similarly, faculty are eligible for sabbatical after six years. Whereas research intensive institutions allow earlier such leaves, these standards are largely within the parameters of peer institutions; however, resource limitations mean that sabbaticals at DSU are rare and highly competitive. Faculty and administrators might consider other methods to allow space for faculty to innovate and retool their teaching and/or scholarship.

Program Curriculum

Reviewer Assessment

Curriculum, alongside the faculty and student interactions within it, is often the heart of an academic major and even a university degree. CLI presents an innovative curriculum with a well-targeted integration of topics across traditional disciplinary categories. As noted below in the student discussion, the "CLI" title itself can be difficult for some outsiders to understand, but the content itself—particularly with the core CLI courses as a foundation—is coherent and well targeted for both professional development and intellectual growth. The required and general courses are appropriate background, and the specific tracks are well-targeted to their stated purpose.

In their interview, students expressed general satisfaction with their major and the faculty who teach it. Several agreed that the material "helps you think" and led them to understand the world in new ways. They said that they felt good about their growth as writers, and they praised the ways in which CLI displayed contemporary and real-world relevance across courses.

Notably, there is **no established canon for this particular major**. In part, this is because cybersecurity itself is a relatively new field in academic terms. In part, however, this is also

because the program is deliberately interdisciplinary. Its designers built the program with a foundation in security studies in Arts and Sciences but also with a clear set of courses related to computer science and security. In turn, the core required courses, such as the Introduction (CLI 101) and Cyber Leadership (CLI 420) courses, are tailor-built for the major and set clear goals and parameters for this field. These topics include the history of the internet, cyber actors and their respective incentives and constraints, international cyber conflicts and cybercrime, decision making case studies, standard ethical questions, and cost-benefit questions.

The self-assessment states that CLI's particular **interdisciplinary arrangement** "prepares students to excel as leaders and liaisons." (11) This is apt. Facility across traditional fields can instill confidence for students, but it also places them to be conversant across professional fields and traditional silos. The program directors are also right to highlight CLI's inbuilt appeal for military personnel. The flexibility and topics are a natural fit for that constituency.

Students then branch into **specializations**. Each is a valuable path for professional development as well as in terms of intellectual and ethical development. The two, however, are asymmetrical in their focus. Digital Forensics appears to be tightly targeted, sequential, and coherent. World Affairs and Human Behavior is a more loosely organized, generalist track. Despite the name, it leans toward criminal justice or national security enforcement. Each specialization plays an important role for students, and to date, students seem to choose each in about equal parts. In turn, employment outcomes for each are roughly similar. The CLI minor, meanwhile, is an effective distillation of the core elements of the major. That said, one possible gap here is that the minor includes no CSC courses and only one dedicated Intelligence course.

On particular courses, students expressed satisfaction with some frustrations (more below). Among the core courses along with the **World Affairs and Human Behavior track**, students appreciated that courses such as Hacking, Hackers, and Hacktivism felt directly applicable and that many of the international relations-focused courses were both useful overviews and, again, applicable to real world analysis. Similarly, students appreciated the new insights and writing skills they associated with courses related to history and sociology.

Overall, CLI displays a healthy and innovative curriculum, and the evidence of both student testimony (below) and student success after the program attest to its value. **Given this, rather than points of critique, the following topics are areas for discussion and possible revision.** The reviewer's own recommendations appear in Part 4 of this report.

Dr. Bendix both developed and is teaching the bulk of the expressly CLI courses. This entails mixed benefits and drawbacks. On the one hand, the program's core curriculum is coherently organized, and Dr. Bendix has assembled an impressive set of topics and materials that bridge typically siloed fields. On the other hand, students—particularly those in the World Affairs and Human Behavior specialization—might in effect be "majoring" in Dr. Bendix. To be clear, other faculty make important contributions to the breadth of the major; however, with one faculty member personally developing and teaching the core courses, the major centers on that individual. In practical terms, this places CLI in peril should Dr. Bendix, for example, need to take a leave of absence. In intellectual and pedagogical terms, the student experience is more limited than it might be in other majors.

The Digital Forensics specialization, meanwhile, tends to leave those students relatively disconnected from the administrative and curricular hub of CLI but with no concomitant core instructors or other “home” in that college. Interviews suggest that coordination with “that side of campus” is challenging. Their priorities and approaches differ. Students also reported consistent quality frustrations with the online instructors in this specialization. In their interview, students said that instructors in this specialization appeared to be very knowledgeable, that they felt that they had learned valuable material, and that they appreciated the content. Unfortunately, they also said that the Digital Forensics instructors often appeared to be distant or disengaged. In particular, the online course format was a consistent frustration. Personal engagement from instructors was limited and delivery to the students felt stilted or dull.

For both specializations, students said that the material “is good” but “can be repetitive” as similar topics emerged repeatedly across courses. This outcome appeared to be a function of the program’s limited instructor options. With a single faculty member developing and teaching most of the CLI’s core courses, students observed content overlap. In the Digital Forensics track, meanwhile, many of the same networking and other basic principles were repeated with relatively modest cumulative content development.

Students often avoid and postpone the Cyber Social Science Methods and Analysis course and, therefore, are often taking it after the Sophomore year, when it is designed to help students develop needed skills. The course itself introduces some basic analytical concepts like game theory but primarily focuses on reading and writing assessment, and this typically culminates with a research project. This appears to play to CLI’s strengths as a program designed to train early career professionals with an adaptable set of skills and knowledge bases. There are no clear solutions to the problem of students avoiding the course until later in their careers. This is a universal challenge. CLI is an interdisciplinary program designed in part to facilitate students transferring from other majors or institutions, so for that reason, it is also designed to allow students some flexibility. Perhaps the most likely intervention is with student advising: require and enforce early completion of this course on an individual student basis. This is potentially labor intensive, but if this guidance is simply standard alongside all other advising, the addition is marginal.

During interview discussions, a related question emerged: Should CLI add introductory statistics or some other data literacy material or even a course to the curriculum? An established curriculum is zero-sum: any new course or material will likely supplant existing material or, at minimum, an elective option. A new requirement like this could entail major updates to student expectations and faculty assignments. This particular material might also deepen the challenge of students postponing the methods course. As more than one student mentioned in the interview, for them CLI is a rigorous alternative when they found that their original plan in a STEM field was a poor fit for their interests. For that reason, adding statistics and data literacy might lead to marginal enrollment declines. On the plus side, however, students would leave with an added, discrete skill set. This type of numeracy seems likely to remain a *sine qua non* of 21st century professional work. In addition, required to work with statistics and data, students most likely would find that they can be approachable and manageable topics. Such a requirement also leaves them with a strong selling point for employers.

The “Intelligence” element of CLI name remains accurate for the program in general terms but is at risk of being misleading in relation to academic programs specifically focused on intelligence studies. In short, despite its name, CLI is not a traditional intelligence program. Intelligence as a field is valuable background for this program and in its own right is a well-established professional field with adjacent scholarship. By contrast, this aspect of the program largely arises from a set of overlapping topics and two specialized courses. This material is a good fit for CLI as a degree focused on cybersecurity policy, analysis, and decision-making; however, it is relatively limited compared with an expressly devoted “Intelligence” major. As expanded in the next section, one of CLI’s ongoing challenges is branding: its name is a fair moniker for its content, but for the uninitiated, it may be confusing.

Finally, students shared universal agreement that whereas they valued the major and its interdisciplinary strengths, it is difficult to explain to peers and is confusing to employers. To avoid the explainer, some students said that in casual conversation they will say that they are a political science major. The “leadership” piece of the title appears to be particularly confusing. As a concept, it is vague, and in popular parlance “leadership studies” and leadership manuals are often associated with idiosyncratic claims about how to achieve personal success. More than one student had heard the program called a “fake degree.” Some faculty outside the college, students reported, will say that they do not consider the degree a useful one. More alarmingly, students said that some employers held similar views. Whereas many employers readily interview and hire CLI graduates once they personally interact with them or understand the program, their first impression is confusion and, in turn, rejection because they lack an existing conceptual category for it. One student even reported that they had personally been rejected from two separate internship opportunities because the putative employer immediately rejected the major.

In defying and integrating standard categories, CLI offers a uniquely valuable program, but in a tragic twist, this fact also leaves the program difficult for outsiders to decipher.

Technology Integration

Overall, students, faculty, and staff expressed confidence in their access to relevant technology and their ability to integrate that as needed into their work. Perhaps the only major concern identified during this review is tech consistency between courses. A 2023 survey of all online DSU students, for instance, found that subjects expressed some frustration that instructors varied in terms of their use and facility with e-learning software and presentation. To address this, DSU’s director of Online Education disseminates findings on student experience and maintains a virtual student union which serves as a shared landing page for all online students. This office also onboards all adjuncts in order to help ensure consistent knowledge of DSU’s online standards.

Program Assessment

Program decision-makers face a key challenge regarding assessment. This stems primarily from the program's multidisciplinary nature. A major hurdle involves pinpointing which required

courses to assess beyond the core curriculum. While the program initially leveraged existing courses to swiftly establish its curriculum, some of these courses offer narrow measurable contributions. This means their content might be too specific to adequately reflect the program's broader learning outcomes, which complicates comprehensive assessment efforts.

In addition, recent curriculum revisions rendered some prior assessment data obsolete. Rather than a setback, however, this highlights positive engagement and an ethos of continuous improvement: program decision-makers actively respond to feedback and update the curriculum.

The current strategy of focusing on core courses, especially the capstone course, provides a strong, representative sample for evaluating overall program effectiveness.

Student Support/Enrollment

Growth

A key question posed for the review was the nature of CLI's growth alongside whether and how to foster ongoing growth. Can and should the program continue to be scaled to a larger size?

CLI's steady **enrollment growth**, particularly through COVID, is a strong sign of a healthy program that has demonstrated its worth and appeal to students. Indeed, revealingly, these numbers have grown even as the College's overall numbers have decreased. That is a strong testament to CLI's in-built utility alongside its faculty and staff success. In addition, university-wide, demand for online delivery and for access to military personnel remain areas of strength.

In turn, CLI enjoys a **halo effect** from these factors. Demand for online degree paths remains strong, as does interest from the military community. Articulation agreements with the military and other institutions also facilitate transfer students. Notably, both enrollment and employment numbers for CLI's two specializations remain largely equal or balanced. Neither is obviously struggling or dominant relative to the other. This suggests a collegial environment, balanced curriculum, equal promotion, and effective administration for both. Retention is also strong, in part thanks to relatively small and coherent cohort experience.

That said, the program also may have reached a natural plateau. Proportionally, CLI's enrollment numbers as calculated on page 13 of the self-study appear to track with the university's overall enrollment. Now that its reputation is well established on campus, CLI enrollment growth may be tied more to university numbers. University enrollment is a fixed pie. Without a strategy to attract new students to DSU, growth among majors and programs is zero-sum. In other words, program growth may rely more upon a positive-sum approach that expands the overall pie by drawing new populations onto campus or into online degree paths.

Student Graduation Rates and Placement

CLI is steadily meeting and now exceeding the SDBR's **graduation productivity** target of seven graduates/year. Persistence and retention rates on balance are also strong and meet or exceed national trends. Some of these numbers appear to fluctuate dramatically from one year to the next; however, in large part, those reflect the nontraditional paths followed by the program's

military students. On balance, cohort effects and the personal connections of faculty advising help sustain CLI's steady enrollment performance.

Despite its relatively new status, CLI displays an impressive **placement record**. Students appear to have strong employment options with well-respected public and private organizations. Internships and work experience are particularly crucial for transitioning out of university. This is particularly true for students in interdisciplinary or liberal arts-style majors like CLI. Such students have developed a broad knowledge base, cultivated conceptual flexibility, and honed their intellectual skills but lack an obvious or predetermined vocational track. In general, the 120 hours of work experience can place CLI students in a strong position to succeed. To this end, the Madison Cyber Labs (MadLabs) option for internships is another option for students, and it demonstrates DSU's disproportionately strong access to research and work experiences. By all accounts—students, faculty, and administration—internship experiences deliver results, both in terms of actional experience and in many cases long-term job offers. In their interview, for instance, most students reported that they either had strong leads on future career paths or felt positive that the internship experience was both valuable and flexible enough for them to range widely, either to their home communities or in major centers like Washington, D.C.

Part 4: Recommendations for Change

General comments

CLI appears to be robust. Enrollment is strong and has been on a growth trajectory. Students on balance enjoy strong job prospects, and employers express ongoing interest in the skills, background knowledge, and analytical capabilities cultivated by this major.

In short, this review did not identify any areas of concern that would demand immediate action. What follows, then, are a series of recommendations for further internal deliberation.

Specific recommendations, organized by focus areas for review

Program Goals and Strategic Planning

CLI's Program Learning Outcomes (PLO's) are a broad guide but may be too general to allow meaningful assessment or communicate discrete skills and other student takeaways.

- Consider convening to revise these alongside possible curricular updates (described below).

For instance, rather than the current PLO "explain social, cultural, political, and economic frameworks at a national and international level," a revised version might state, "Analyze how national and international social, cultural, political, and economic frameworks influence cybersecurity policy and practice," or, "Evaluate the impact of competing social, cultural, political, and economic frameworks on the development and implementation of cybersecurity strategies at both national and international levels."

Program Goals Relative to Institutional Mission

- No recommendations.

Program Goals Relative to Current National Trends and Forecasts

CLI displays a strong template for interdisciplinary education. Focused on an emerging technology, however, it will always be under pressure for reinvention and revision. Based on the program review above and national trends, this study recommends that CLI consider two areas for student skills development. Each is tied to current, entry-level career trajectories.

- Develop modules and/or courses in which students learn and apply OSINT practices.
- Develop modules and/or courses in which students learn to engage and manage LLMs and similar AI tools to achieve assessment feedback, analytical outcomes, and so forth.

Program Resources

Faculty and Faculty Credentials

Existing CLI faculty and instructors are meeting the current need, but they are a thin line. Each offers course material essential to the major, and each is managing a case load of advising or mentoring responsibilities. Any personnel changes or significant growth may lead to cascading complications for the program and its offerings.

- Identify means to achieve some curricular and instructional redundancy. Maintaining a list of active adjuncts is helpful to this end, but this approach is a stop-gap in that those instructors are contingent and not invested in the program's core mission and success. Another option might be to rotate instruction of some of the core CLI courses.
- Establish clear procedures for faculty absences that include accessibility of content for the core courses.

New hires cannot lightly be recommended; however, they also serve as investments in program durability and putative expansion. For CLI, what level of enrollment or growth would justify this investment? In addition to course instruction, the program's model of faculty advising students has proven highly successful but requires a manageable student-to-faculty ratio. That number is probably at or near its maximum.

- Consider setting a clear trigger point for personnel expansion.

Criminology/Criminal Justice

The self-assessment focuses particularly on developing a "more cohesive suite of criminal justice courses." Aside from CLI 440, Cybercrime, CLI's current offerings in this area are relevant but peripheral to the field of Criminal Justice (CJ). Expanding in this particular area may be a helpful long-term investment for DSU and CLI.

- If or when DSU is in a position to consider a tenure-track or similar hire, a Criminal Justice expert with some ability to teach cyber-related courses would solidify several aspects of CLI.

Cybersecurity as a field is shaped by both criminal threats and evolving legal frameworks. While the CLI program has built strengths in intelligence, leadership, and world affairs, its support for criminal justice is limited. Adding a faculty line in criminology or criminal justice likely would boost student recruitment and retention, offer expertise for students, and strengthen the program's appeal to law enforcement and related employers.

A criminal justice hire would also help address the program's challenge of broad subject coverage with limited faculty. Criminal justice intersects with fields like political science, sociology, and law; adding expertise in cybersecurity law would deepen the program and provide continuity during faculty transitions. Such a hire could also benefit other DSU colleges, especially the College of Business and Information Systems, through interdisciplinary collaboration.

Financial Support

Given that major leaves and sabbaticals are limited at DSU, administration might consider other incentives or assistance to help faculty innovate and retool their teaching and/or scholarship. These may be difficult to provide in the short term, but they are long-term investments in faculty professional development.

- Summer grants for course or research development.
- Course releases tied to new course development or adoption of an existing core course by a new faculty member.
- Guest speakers and/or observers who engage the program, share reflections, and/or present their own expertise as it relates to areas of strategic growth, such as OSINT or AI.

Program Curriculum

CLI is by definition a unique blend of traditional and emerging topics. For this reason, this review and its recommendations expend particular focus on this category.

Digital Forensics specialization

Students who had taken Digital Forensics courses expressed appreciation for the expertise and insight of that track; however, both they and others on campus observed that because this specialization is managed in another college, coordination and instructors were of variable quality.

- University-level administration should consider, if this is not a current practice, regularly convening representatives from each major branch of CLI for coordination and communication on several topics:
 - Which courses are offered and when.
 - Who is teaching and their respective backgrounds.
 - Strategic, curricular, and pedagogical goals.
- If such meetings already occur, consider surveying students on their experience in order to identify possible patterns of drift or confusion between this specialization and the rest of the program.

The World Affairs and Human Behavior specialization

This branch of the major is a more generalist track by design. It continues to enjoy equal or greater enrollment relative to the Digital Forensics Specialization. The current arrangement is still a valuable one that admirably integrates different approaches in a way that prioritizes professional and intellectual development. That said, should program leaders decide to revise this track, they might consider one of the following approaches.

- Rename the specialization to more closely reflect its focus on security and law.

- If the program continues to grow, consider dividing the current World Affairs and Human Behavior into two tracks.
 - A security and law specialization track
 - A true World Affairs and Human Behavior track with a wider range of POLS, SOC, MCOM, and/or CMST

Methods and Data Literacy

Faculty have considered whether to add introductory statistics or some other data literacy material—possibly even a course—to the curriculum. The review above cites some benefits and drawbacks to adding such a requirement. On balance, however, this review does recommend some addition in that area. Students with a “cyber” background will likely be expected to at least understand the vocabulary and basics of data and statistical work. Further, many of the positions students receive out of CLI would be enhanced with basic numeracy in these areas.

- Add some basic statistics and/or data organization and utilization to the existing curriculum. Most likely, this would occur in the Cyber Social Science Methods course.

Intelligence Content

Consider expanding course content and/or course offerings expressly identified with intelligence as a field. The review above suggests that the “Intelligence” component of this program is helpful but underdeveloped, particularly since intelligence programs do appear at other colleges and universities. CLI at DSU will be held in comparison with those. The reviewer recognizes that adding new courses or course content is a zero-sum challenge. It entails both startup costs regarding course development as well as tradeoff costs regarding courses dropped from the curriculum. Still, several stakeholders in this program did express interest in expanding CLI’s work in OSINT and/or Risk Analysis.

- Expand course content to include more OSINT and/or Risk Analysis.
- Consider adding one or two courses to the curriculum that are expressly rooted in the existing academic and professional fields of Intelligence.

Leadership Content

“Leadership” is nominally a core aspect of this program, but its relevance in the curriculum is underdeveloped. Developing that set of intuitions and skills is central to the program’s mission and identity. The program curriculum or related materials would do well to more explicitly articulate this concept and/or demonstrate where and how it appears in the curriculum. Courses expressly devoted to “leadership” may not be necessary, but on its face, that content is largely missing aside from CLI 101, Introduction to Cyber Leadership.

- Students may benefit from special programming (e.g. guest speakers and events) that is expressly framed as “Leadership Insights” or other material directly tied to this aspect of the major.

- In advising or mentoring, discussion leadership lessons or insights in the curriculum and how those skills relate to possible job paths.
- List “Leadership Skills” on core syllabi to formally document where and how that content is expressed.

CLI Minor

The minor represents a sensible distillation of CLI core courses but may have pruned a bit too much out of those core requirements.

- Consider including at least one CSC course as a requirement. As in the major, some CSC courses appear to be standalone and could be integrated into the two categories for elective courses.
- Consider adding US Intelligence Community (CLI 110) in one of the elective categories.

Program Name

A striking concern raised by students was the program name. As detailed above, CLI was developed around a coherent set of goals and a sensible internal logic; however, the concept is unfamiliar to most outsiders. Students reported both casual and serious confusion about what the major represented. In some cases, this involved rejection from an internship or job interview. Changing the program name is a dramatic step given the inertia of branding and familiarity; however, program decision makers should consider means to mitigate this issue.

- Convene a discussion with stakeholders across campus and the community about this issue and possible solutions.
- Determine a shared and concise summary of the program that faculty and staff can share with students and the community.
 - One student called CLI “civics for DSU.” That is catchy but perhaps less than accurate. What other ways can the program be summarized?

Technology Integration

- No recommendations.

Program Assessment

CLI’s program assessment is relatively new as the program itself has been updated since its early development. That said, the program leaders’ commitment to continuous improvement is ultimately one of the central aims of assessment. The current review offers only two recommendations in this area.

- Ensure that core courses have an established and systematic assessment practice. This simplifies the work for faculty and should maintain consistency.

- Consider identifying a core course in each specialization for assessment. This will help the program and administration ensure that the programs remain relatively consistent in terms of quality for all majors.

Student Support/Enrollment

Growth

CLI has seen steady growth and retention, and in some ways is an exemplary program for DSU. It pairs the university's STEM and cyber strengths with the liberal arts tradition. This is proving to be a strong mix for both students and employers. As discussed above, growing the program requires strategic forethought. The university itself has seen some growth, and CLI grew accordingly. Further growth beyond that ratio may require extra effort and investment. The following are suggestions to preserve and expand program enrollment.

- Ensure a fully online degree path.
- Continue to cultivate military relationships. These might include hosting events and inviting expert speakers from the regional military community.
- Advertise existing university articulation agreements.
- Work with DSU outreach personnel to hone a public message and maintain visibility with those professionals.
- On campus, host events and promote social media posts that include explainers of CLI's unique interdisciplinary offerings.