Proposal to Create
Bachelor of Interdisciplinary Studies (BIS)
at the University of West Georgia

Rationale for Proposing a Bachelor of Interdisciplinary Studies Degree Program

The proposed Bachelor of Interdisciplinary Studies (BIS) is a self-designed program for undergraduate students who can demonstrate a clear purpose for integrating multiple disciplinary perspectives and applied fields. This creates a new learning pathway serving the academic and professional preparation commitments articulated in UWG's mission as well as those reflected in its multiple academic initiatives, including the Strategic Plan 2014-2020, LEAP West Campus Plan, and Complete College Georgia Campus Plan. Specifically, the proposed BIS degree will contribute to fulfilling goals in the following strategic areas:

1) **Student development through academic engagement**
   Strategic Initiative #2 of the university's Strategic Plan aims to successfully develop students' potential and transform their lives through high-impact, high-quality academic programming. This broad aim is also expressed in the Leap West Campus Plan, which specifies the creation of a BIS degree as one way to enhance intellectual and professional development and strengthen liberal arts education at UWG. Systematic study has shown that interdisciplinary studies contributes to high student engagement and higher order learning (e.g., Archibald, 2009 Toynton, 2005; Zimmerman et al, 2011). As an individualized program of study built around a sequence of three required interdisciplinary courses, the BIS fills a gap in the UWG curriculum. It creates a new learning pathway that enables students to engage intellectually with, and create pathways between, the many academic disciplines cultivated by UWG's departments and colleges.

2) **Degree completion**
   Strategic Imperative #1 of the Strategic Plan specifies a set of goals and actions related to improving students' timely progression and degree completion. The university's Complete College Georgia plan provides an additional set of strategies, goals, and actions to this end. Beyond interdisciplinary studies' general positive impact on student persistence (e.g. Lansiquot et al, 2011), the BIS degree will address these degree completion goals by providing an academic option for returning students, including adult learners and veterans. These are students whose progress toward a bachelor's degree has been discontinuous. When they enroll at UWG, they bring credit hours earned during previous eras of their lives, often at other colleges and universities. Too often, these previously-earned credit hours cannot fit into existing degree programs, i.e. the credit hours cannot be "used" toward a bachelor's degree, especially for majors that do not allow for many electives. For these students, the proposed BIS degree provides a framework for combining previously-earned hours into a coherent, meaningful plan of study with interdisciplinarity at its core.

3) **Collaborations with partners in the community and industry**
   Strategic Imperative #3 of the university's Strategic Plan endeavors to strengthen the role of collaborations with partners in the community and industry. The BIS degree provides a unique opportunity for UWG students and faculty to collaborate with local organizations, agencies, and businesses in academic programming, designing interdisciplinary degree plans that develop knowledge and skill sets that will enhance graduates' employability and success in particular

sectors while contributing to the vibrancy of the regional and state economies and strengthening citizen participation in local communities.

4) **Student recruitment**
Strategic Initiative #1 of the Strategic Plan spells out a "strategic recruitment" goal of attracting university-ready students for whom UWG is a top-choice school. The Complete College Georgia plan specifies an aim to attract adult learners (Strategy 7) and veterans (Strategy 4). The BIS degree helps meet these recruitment goals by providing an attractive academic option for several distinct student populations:

- **Returning students, including adult learners and veterans**
  See #2 above

- **Non-traditional students already in the workplace or seeking a career change**. This refers both to students who need a degree for career advancement and to those who a see a bachelor's degree as necessary in moving on to a new and different career path. The degree proposed herein allows these students to consider, possibly in consultation with employers and others already in their industries of present or prospective employment, the skills and higher learning necessary and advantageous for successful employment and advancement in them. Individualized degree plans can be designed around these specific goals and, where applicable, incorporate prior learning credit.

- **Motivated traditional students with clear intellectual and/or career interests**
  While this degree option is available to all students, it will provide an attractive option for motivated, self-directed students with clear intellectual and/or career passions and interests around which degree plans can be organized.

5) **Recruitment and retention of high-quality faculty**
Strategic Imperative #2 of the Strategic Plan states the aim of attracting and retaining high-quality faculty. The BIS degree serves this by offering a framework for innovative, timely, and creative intellectual collaborations among students and faculty. There is evidence that this feature of interdisciplinarity learning plays a role in attracting and retaining faculty (Archibald, 2009; Lansiquot et al, 2011).

Trends and Best Practice Design in Interdisciplinary Studies

The proposal to add a BIS degree to the UWG curriculum follows a national trend in higher education as well as in the University System of Georgia. On the higher education landscape over the past two and a half decades there has been an increase in the number of degree programs allowing students to individually design degree programs that incorporate advanced learning in multiple disciplines (Anft, 2017; Dill, 2015; Jacob, 2015). Eight of UWG's 10 peer institutions and two of its five aspirant institutions offer such programs. Within the University System of Georgia, 12 schools--including all three of UWG's fellow Comprehensive Universities--offer such degrees, five of which have been approved since 2013. Depending how they are designed, these types of degree program can be described as either "multidisciplinary" or "interdisciplinary". Multidisciplinary programs are those that ask students to take courses in multiple disciplines. Interdisciplinary programs are those that engage students in synthesizing and integrating modes of thinking, knowledges, and methods from multiple disciplines. The UWG BIS is an interdisciplinary degree, requiring students to take multiple upper division courses in at least two different disciplines and a sequence of three interdisciplinary courses, complete a capstone project, and

curate an academic portfolio. This design builds on best practices and curricular insights found in both the academic literature and the experiences of programs at other schools. A key insight from both of these sources is that interdisciplinary (or integrative) learning is not automatically achieved by taking courses in multiple disciplines (e.g. Kleinberg, 2008). Beyond mere exposure to different disciplines, systematic and purposeful integrative engagement is required to cultivate the cognitive and analytical abilities and skill sets that are the hallmark of interdisciplinary studies, that is, making connections between disciplines, finding common ground, analyzing the tensions, critically evaluating differences, and ultimately synthesizing these to construct new perspectives and insights. The UWG BIS degree therefore builds integrative engagement into the program through a sequence of three XIDS courses, a capstone project, and an academic portfolio. Importantly, furthermore, this design puts in place mechanisms for meaningful assessment of the program's learning outcomes (Repko, 2008) (see "Assessment Plan" section below).

Regional Demand for Graduates with Interdisciplinary Abilities and Skills

The proposed BIS meets a general demand in the regional economy for college graduates who are able to proactively, critically, and practically engage with, and problem solve in the context of, the multitude of complex and dynamic issues confronting communities, organizations, and businesses. As UWG's primary and secondary service regions (west Georgia and metro Atlanta, respectively) become increasingly enmeshed in global systems--e.g. production chains, investment circuits, consumer markets, migration flows, etc.--they are simultaneously experiencing rapid technological change, economic restructuring, and political, demographic, and cultural shifts. In this context, there is a need for college graduates with the cognitive abilities and skill sets that are the hallmark of interdisciplinary studies, including

- drawing upon multiple perspectives and knowledge frameworks,
- making connections between them,
- making context-specific judgments about them, and
- integrating them to produce new insights (Repko, 2008).

The demand for college graduates with these interdisciplinary skills is demonstrated by the growing interest in "t-shaped" expertise across a wide range of industries, from information technology and engineering to management and consulting to psychology, the creative arts, and nonprofit sector (Hansen, 2010; Brooks, 2012; Moghaddam et al, 2016). T-shaped expertise combines deep, focused knowledge with "breadth of skills and the ability to collaborate across disciplines with experts in other areas and to apply knowledge in areas of expertise other than one's own" (Doyle, 2014). Claims about the importance of t-shaped expertise, such as "employers are placing increasing importance on skills that reach beyond a single discipline or focus" (Michigan State University, 2017), are corroborated by a study published by the Association of American Colleges & Universities. Based on a survey of 400 private-sector and nonprofit employers with 25 or more employees, the report, *Falling Short: College Learning and Career Success* (Hart Research Associates, 2015), revealed that employers "overwhelmingly endorse" focused learning combined with broad learning, "proficiency in skills and knowledge that cut across majors", and an ability to apply learning in "real-world settings".

Evidence of these national trends exists within UWG's service regions. An academic program needs assessment for Douglas and Paulding counties commissioned by the USG's Board of Regents and based on key stakeholders in those counties, primarily institutions of higher education, chambers of commerce, and local governmental economic development agencies, revealed two significant needs, both of which are met, in part, by the proposed BIS degree:

1. “Soft skills instruction and training”, including critical thinking and analytical skills. As research has shown, both of these particular soft skills, among others, are fostered by purposeful, well-designed interdisciplinary study (Zimmerman et al, 2011; Nikitina, 2005; Toynton, 2005).

2. Graduates for “targeted” industry clusters (i.e. current or anticipated growth sectors), including business, management, marketing, technology services, and communication. These are the very industrial sectors from which demands for “t-shaped” learning and skills have emanated (MGT Consulting Group, 2017).

Similarly, the Atlanta Chamber of Commerce has identified “Key Industry Segments”, including financial technology, bioscience, mobility and technology, cybersecurity, digital media, and smart cities (the internet of things)--all industries making demands for interdisciplinary abilities and skills.

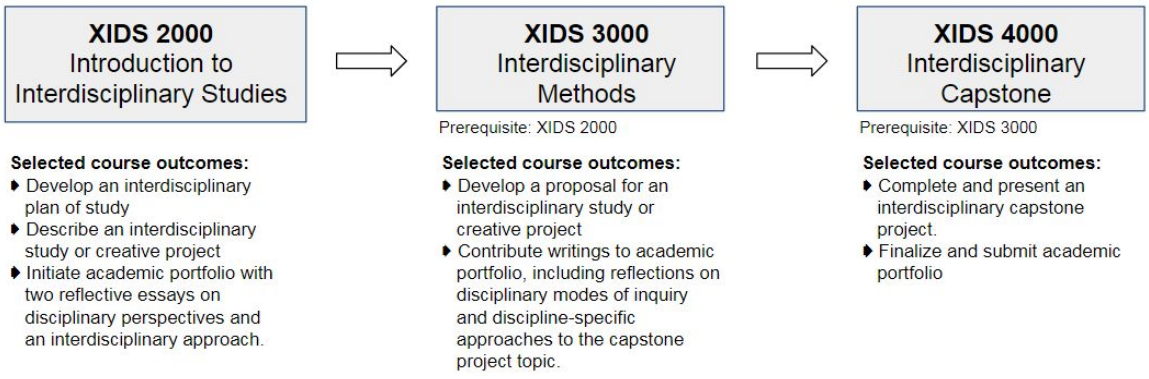
Description of the Program

The Bachelor of Interdisciplinary Studies degree is an individualized, self-designed program for undergraduate students with an interest in integrating disciplinary perspectives and applied fields. Each BIS major develops a degree plan that must include the following:

- **Degree topic**--A theme, question, problem, etc. around which the degree is organized.

- **Learning and long-term goals--**Learning goals specify the knowledge, skills, and experiences the student aims to achieve through academic and co-curricular activities. Long-term goals articulate what the student hopes to achieve after graduating from UWG (e.g. graduate degree, career path, etc.). As the student progresses, both types of goal will be revisited and, as warranted, revised during advising appointments and through reflective writing in the academic portfolio.

- **XIDS course sequence**--The core of the major resides in deliberate and explicit introduction to, and engagement with, the principles, methods, and practices of interdisciplinary studies. Each BIS major therefore completes these courses, which must be taken in sequence:



- **Courses from at least two disciplines**--Disciplinary grounding is essential in integrative learning. Therefore, each degree plan identifies two “grounding disciplines” and includes at least nine credit hours (and no more than 18) of 3000/4000-level coursework from each.

- **Additional courses and/or minor**--Selected in accordance with the degree topic, goals, and capstone project idea.

- **Capstone project idea**--a brief (1-2 paragraph) description of a self-directed project. The description will be refined during advising appointments and through reflective writing for the academic portfolio. A proposal for the project will be developed in XIDS 3000 and the final project will be submitted and presented in XIDS 4000.

The proposed BIS degree is shown in Figure 1 and a sample degree plan is shown in Figure 2.

FIGURE 1
Bachelor of Interdisciplinary Studies

LEARNING OUTCOMES

1. Describe the defining elements of interdisciplinarity.
2. Distinguish between two or more disciplines in how they produce knowledge.
3. Demonstrate the ability to engage in perspective-taking.
4. Develop structural knowledge pertaining to a problem or theme.
5. Integrate knowledge and modes of thinking drawn from two or more disciplines.
6. Produce an interdisciplinary understanding of a complex problem or intellectual question.

60 CORE REQUIREMENTS

42 Areas A-E
Area D (Option I or II)
Must complete Core Areas A-E with 2.0 or higher GPA

18 Area F
3 XIDS 2000: Introduction to Interdisciplinary Studies
3 Foundational 1000/2000-level course from Discipline 1
3 Foundational 1000/2000-level course from Discipline 2
9 Additional 1000/2000-level coursework

60 MAJOR REQUIREMENTS

All BIS majors must complete 39 hours of coursework at the 3000/4000 level, including 24 hours in the major field.

24 Degree Plan
All BIS majors design a program of study organized around a theme and grounded in two disciplines. The degree plan is the specification of this thematic program of study and therefore defines the student's "major field". Developed by the student in consultation with a BIS committee, it names the theme, identifies the two disciplines, lists specific courses and links them to learning goals, and describes an idea for a capstone project. The student's BIS committee consists of an interdisciplinary studies advisor and two disciplinary mentors, each representing one of the grounding disciplines. Both the student and the committee sign the degree plan as well as any subsequent revisions of it. Any BIS major with at least 60 hours must have a signed degree plan.

All degree plans include at least 24 hours of 3000/4000 coursework, including:
3 XIDS 3000 Interdisciplinary Methods
3 XIDS 4000 Interdisciplinary Capstone
9 Three 3000/4000-level courses from Discipline 1
9 Three 3000/4000-level courses from Discipline 2

36 Electives and/or minor

120 DEGREE TOTAL

FIGURE 2
Sample Degree Plan for BIS in Data Analytics and Visualization

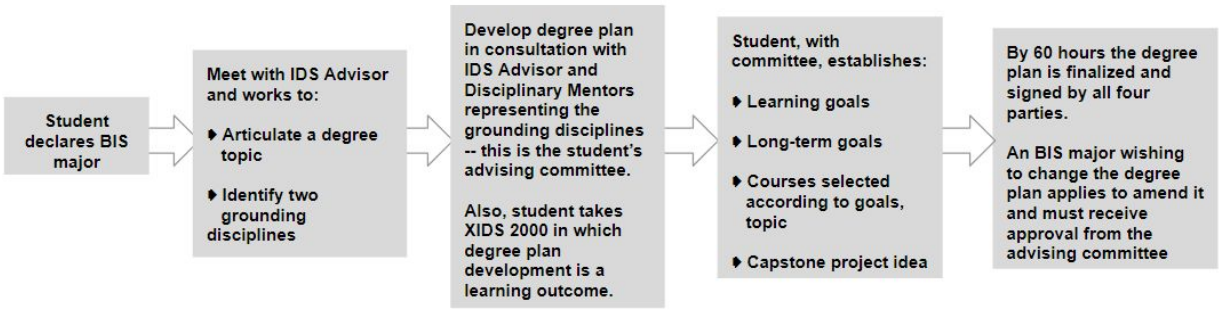
60	**CORE REQUIREMENTS**	
42	**Areas A-E**	
	Area D	MATH 1634 Calculus I
	Area E	ECON 2105 Principles of Macroeconomics
18	**Area F**	
3	**Intro to Interdisciplinary Studies**	XIDS 2000
3	**Foundational course from Discipline 1**	CS 1301 Computer Science I
3	**Foundational course from Discipline 2**	MATH 2644 Calculus II
9	**Additional 1000/2000 coursework**	CS 1302 Computer Science II GEOG 2553 Introduction to Mapping and GIS SOCI 1101 Introductory Sociology
60	**MAJOR REQUIREMENTS**	
	Degree Plan	
	THEME	Data Analytics and Visualization
	DISCIPLINES	Mathematics, Computer Science
	GOALS	Learning Goals ● Develop basic skills needed for career in data analysis, including in research methodologies; in data handling, organization, mining, analysis, visualization; in statistics, and using computer software. ● Develop geo-analysis and visualization capacity ● Demonstrate an ability to apply these skills to real-world urban (cities and towns) problems. Long-term Goals ● Work in data analysis for government or company
	CAPSTONE PROJECT	Partner with a city government or real estate firm to examine the relationship between automobile traffic congestion and land values.
27	**MAJOR COURSES**	
3	**Interdisciplinary Methods**	XIDS 3000
3	**Interdisciplinary Capstone**	XIDS 4000
9	**3000/4000 courses from Discipline 1**	CS 3211 Software Engineering CS 3230 Information Management CS 3270 Intelligent Systems
12	**3000/4000 courses from Discipline 2**	MATH 4203 Mathematical Probability MATH 4213 Mathematical Statistics MATH 4803 Analysis of Variance MATH 4813 Regression Analysis
16	**Minor**	Geographic Information Systems GEOG 3563 Remote Sensing and GIS Integration GEOG 4553 Geographic Information Systems GEOG 4753 Contemporary GIS Applications GEOG 4554 Computer Cartography
18	**Electives**	ART 3400 Graphic Design Survey for Non-Majors ECON 4480 Urban and Regional Economics ENGL 3405 Professional and Technical Writing

		GEOG 3643 Urban Geography SOCI 4015 Analyzing and Visualizing Data SOCI 4333 Urban Sociology

The Advising Process

The advising process involved in degree plan development is illustrated in Figure 3. Upon declaring the BIS major, the student will meet with an Interdisciplinary Advisor. During initial discussions, the two will work to clarify the student's intellectual and/or career interests and then, based on that, articulate a topic for the degree and identify two disciplines. At this point, Disciplinary Mentors--one from each of the identified disciplines--will join the process, forming, along with the IDS Advisor, the student's advising committee. The student will consult with this committee to develop a degree plan that includes each of the pieces specified above. Additionally, at some point during this process, these students will take XIDS 2000: Introduction to Interdisciplinary Studies. Degree plan development is folded into the learning outcomes of this course and is, therefore, a prominent and applied learning activity--students will demonstrate an understanding of interdisciplinary concepts and principles by using them to develop a mock degree plan. Once the BIS major's degree plan has been developed, all four parties will sign the degree plan. Any BIS major with at least 60 hours must have a signed degree plan. A degree plan can be revised with the approval of her or his advising committee. With this process, particularly given the student's central role in developing her or his own degree requirements, the advising work of the IDS Advisor and Disciplinary Mentors will diminish considerably once the plan is completed. From this point until the student graduates, the advising team will offer mentoring related to the student's postgraduate plans, capstone project, etc.

FIGURE 3
The advising process involved in degree plan development



The Role of the Interdisciplinary Advisor and Disciplinary Mentors

The Interdisciplinary Advisor is a faculty member with an understanding of interdisciplinarity as an approach to both curriculum and the research or creative process. Eventually, it may be that the IDS Advisor(s) resides in the Advising Center, in response to the goal of professionalizing advising stated in the university's Complete College Georgia campus plan. In any case, the IDS Advisor's role is to facilitate interested students' entry into the major and provide a consistent interdisciplinary perspective through development of the degree plan and, possibly, through to graduation.

Disciplinary Mentors are faculty members who play a vital and two-fold role. First, they provide an intellectual perspective that guides the student's engagement with a particular discipline. In this regard, their primary interactions with the student will be around helping with the selection of an appropriate set of courses from their discipline, developing and/or refining the capstone project idea, and helping the student articulate learning and career goals. Beyond this, the disciplinary mentor may choose to take on a role as capstone project mentor. Second, the Disciplinary Mentors will contribute organization and institutional insights from the perspectives of their departments and disciplines. For example, when will certain courses and their prerequisites be offered and can non-majors (such as BIS majors) can be accommodated in them (i.e. some courses may be over-subscribed and therefore necessarily limited to disciplinary majors)? Additionally, Disciplinary Mentors will be provide a check on the creation of degree plans that overlap with already-existing majors as well BIS degree topics/plans that run afoul of accrediting agencies, etc.

The work of the IDS Advisor and Disciplinary Mentors is critical and will be figured into workloads and accounted for by chairpersons, deans, and the upper administration. The Faculty Senate will be approached to develop consistent practices across the university.

Assessment Plan

The program's learning outcomes specify hallmarks of interdisciplinary (or integrative) higher learning. Whether, and the degree to which, BIS majors meet these objectives will be determined through an evaluation of the following:

- **Academic portfolio**
  An academic portfolio that includes one piece of work from each of the courses taken in the grounding disciplines (6 courses in total), work from other courses, and reflective writings. The portfolio will be curated from the moment a student declares the BIS major and will be periodically reviewed during meetings with the Interdisciplinary Advisor. Reflective writings will be assigned and submitted throughout the XIDS course sequence (2000, 3000, 4000). These will ask the student to consider a range of questions, such as how particular courses relate to each other, how they relate to the degree topic, how, based on a review of work from a previous course or the learning and long-term goals in the degree plan, the student has evolved in her or his thinking, and so on.

- **Capstone project**
  A culminating work primarily directed and crafted by the student (a paper, exhibition, service project, etc.). All projects will involve writing that communicates an integrative perspective or practice that blends disciplinary modes of thinking and methods. The capstone project will be submitted in XIDS 4000.

The Bachelors of Interdisciplinary Studies will initially be housed in a college to be determined based on the origins of the program at UWG. The Director of the Center for Interdisciplinary Studies will remain in the Office of the VPAA and will coordinate with the college in administering the BIS program. Tracking of degrees conferred and credit hours earned will be divided among the academic units based on their contributions to each unique program through a process designed in the Center for Interdisciplinary Studies (see "Counting the Contributions of Departments" section below). It is our hope that plans currently in place to develop a centralized University College will come to fruition creating a more natural home for interdisciplinary programs where they can be more directly resourced. Indirect

resourcing through an allocation process based on growth will be utilized while the program is being established.

Counting the Contributions of Departments

The success of the BIS degree program depends on contributions made by academic departments and colleges across the university. As such, departments and colleges need to trust that the work they do--teaching courses, providing mentoring, etc.--is valued and visible in faculty workloads, faculty promotion and tenure processes, program evaluation, and resource allocation processes. UWG's Strategic Plan 2014-2010 articulates a commitment to creating "a culture of strategic planning and institutional effectiveness so that University decisions at all levels are...driven by data" (Strategic Initiative #4). Following this, the Center for Interdisciplinary Studies, housed in the Office of the Provost, will work with departments, colleges, and the Faculty Senate to construct a database that accurately and effectively reflects the contributions of colleges and departments. For example, two Disciplinary Mentors, and thereby two departments in most cases, will have significantly contributed to each BIS degree conferred. Additionally, those departments, along with others, will have contributed credit hours (non-Core) that were built into that BIS graduate's degree plan. Figure 4 provides an example of how departmental contributions could be recorded for each BIS degree conferred, in this case the sample BIS degree shown in in Figure 2 above (a BIS in Data Analytics and Visualization).

FIGURE 4

Contributions of individual departments for BIS in Data Analytics and Visualization

	Disciplinary Mentor	Number of credit hours built into degree plan	Percentage of credit hours built into degree plan
Computer Science	X	9	14.5
Mathematics	X	12	19.5
Geography		19	31.0
Sociology		6	10.0
Art		3	5.0
Economics		3	5.0
English		3	5.0
XIDS		6	10.0

References

Anft, M. (2017). Breaking professional schools out of their silos. *The Chronicle of Higher Education*, May 5.

Archibald, D.C. (2009). Barriers and solutions to launching an interdisciplinary movement: The University of Massachusetts-Lowell. In T. Augsburg & S. Henry (Eds.), *The Politics of Interdisciplinary Studies* (pp. 195-211). Jefferson, NC: McFarland & Company, Inc., Publishers

Brooks, K. (2012). Career success starts with a "T". *Psychology Today* (April 19). Retrieved from https://www.psychologytoday.com/blog/career-transitions/201204/career-success-starts-t

Dill, J. (2015). The college degrees experiencing the greatest growth and declines. *Forbes*, September 15. Retrieved from https://www.forbes.com/sites/kathryndill/2015/09/17/the-college-degrees-experiencing-the-greatest-growth-and-decline/#51e118755f04

Doyle, M. (2014). Why engineers need to develop T-shaped skills. *Product Lifecycle Report*, December 3. Retrieved from http://blogs.ptc.com/2014/12/03/why-engineers-need-to-develop-t-shaped-skills/

Hansen, N. (2010). IDEO CEO Tim Brown: T-shaped stars: The backbone of IDEO's collaborative culture. *Chief Executive* (January 21). Retrieved from https://chiefexecutive.net/ideo-ceo-tim-brown-t-shaped- stars-the-backbone-of-ideoaes-collaborative-culture__trashed/

Hart Research Associates. (2015) *Falling Short? College Learning and Career Success: Selected Findings from Online Surveys of Employers and College Students Conducted on Behalf of the Association of American Colleges & Universities*. Retrieved from https://www.aacu.org/leap/public-opinion-research/2015-survey-falling-short

Jacob, W.J. (2015). Interdisciplinary trends in higher education. *Palgrave Communications* 1:15001 doi: 10.1057/palcomms.2015.1

Kleinberg, E. (2008). Interdisciplinary studies at a crossroads. *Liberal Education* 91(1). Retrieved from https://www.aacu.org/publications-research/periodicals/interdisciplinary-studies-crossroads

Lansiquot, R.D, Blake, R.A., Liou-Mark, J., & Dreyfuss, A.E. (2011). Interdisciplinary problem-solving to advance STEM success for all students. *peerReview*, 13(3). Retrieved from https://www.aacu.org/publications-research/periodicals/interdisciplinary-problem-solving-advance-stem-success-all

MGT Consulting Group. (2017). *Academic Program Needs Assessment Douglas and Paulding Counties*. Prepared for the Board of Regents, University System of Georgia.

Michigan State University. (2017). T-Academy 2017: Ramping for Campus T-Vitality and T-Success. July 26-28. Retrieved from http://tsummit.org

Moghaddam, Y. Bess, C., Demirkan, H, & Spohrer, J. (2016). T-shaped: The new breed of IT

professional. *Executive Update*, 17(8). Retrieved from https://www.cutter.com/sites/default/files/APM/apmu1608.pdf

Nikitina, S. (2005). Pathways of interdisciplinarity cognition. *Cognition and Instruction*, 23(3), 389-425.

Repko, A. (2008). Assessing interdisciplinary learning outcomes. *Academic Exchange Quarterly*, Fall, 171-177.

Toynton, R. (2005). Degrees of disciplinarity in equipping students in higher education for engagement and success in lifelong learning. *Active Learning in Higher Education* 6(2), 106.

Zimmerman, S.D., Short, L. & Hendrix, E.M. (2011). Impact of interdisciplinary learning on critical thinking using case study method in allied health care graduate students. *Journal of Allied Health*, 40(1), 15-18.