WESTERN MICHIGAN UNIVERSITY

Four Perspectives on the Future of Interdisciplinary Academic Studies at Western Michigan University: Recommended Strategies Going Forward

The Ad-hoc Committee on Interdisciplinary Academic Studies Western Michigan University Faculty Senate

The IAS Project Team

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EXECUTIVE SUMMARY

The field of higher education is under enormous pressure to create value for its students. The term *value* assumes a number of competing priorities, including a strong set of academic program offerings, an engaged student-life on campus, while being cost effective and ensuring a high-measure of employability for the student upon graduation. The purpose of interdisciplinary academic studies (IAS) is to address questions that transcend disciplinary boundaries. Interdisciplinary academic studies, broadly speaking, tries to consider highly complex problems or real-world issues that cannot be fully addressed through a single disciplinary lens. As we look to the future, it is our belief that we are reaching a point in higher education where departments can no longer afford to go it alone.

In April 2019, the Faculty Senate Executive Board established the formation of an ad-hoc committee to examine the current practices of interdisciplinary academic study at WMU and evaluate both opportunities and challenges going forward. The following represents some of its charges:

- Identify and summarize the challenges associated with existing interdisciplinary academic programs at Western Michigan University.

- Identify examples of best practices of interdisciplinary academic programs at both nationally and at Western Michigan University.

- Identify and develop strategies going forward to help improve and advance the importance of IAS going forward.

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NOTE TO THE READER

In April 2019, the Faculty Senate Executive Board established the formation of an ad-hoc committee to examine the current practices of interdisciplinary academic studies (IAS) at Western Michigan University and to evaluate both opportunities and challenges going forward. The formation of this group was conceived at a time prior to and with no immediate concern for the future COVID-19 pandemic. In writing this report, the first priority was to meet the original goals of the IAS project team's mission. Along the way, we recognized that some of the developing strategies were simultaneously beneficial to both IAS as well as the revisioning of curriculum design in light of the COVID-19 situation.

This project initiative is an example of "Think Big" in the most import sense of the term. Given the challenges associated with the COVID-19 pandemic, we believe that some of the recommendations and strategies put forward in this report will help us address the new realities that we as a University face. The present crisis lends a new urgency to our efforts.

To that end, this report offers four perspectives on the future of Interdisciplinary Academic Studies at Western Michigan University. These include: *Perspective 1*. Overcoming Institutional Barriers Through Flexibility; *Perspective 2*. Promoting Innovative Curriculum Design; *Perspective 3*. Advancing Interdisciplinary Research and *Perspective 4*. Advancing a Culture of Interdisciplinary Thinking. Each of these sections is accompanied by examples of best practices at other Universities as well as a general set of recommendations. In addition, each section includes one innovative curricular feature known as Promising Ideas.

Perspective 1. Overcoming Institutional Barriers Through Flexibility

The challenge before us is our ability to work though the logistical barriers that makes interdepartmental collaboration difficult. There is a tendency among colleges (and department chairs) to think in terms of academic silos. Among the recommendations put forward is that all faculty should be given the chance to request a courtesy appointment outside of their home college or department. It is further recommended that the future development of interdisciplinary academic programs and courses need to be accompanied by a fast and efficient curriculum review process at both the College, Faculty Senate and University levels.

Perspective 2. Promoting Innovative Curriculum Design

There are a number of practical problems and issues that we face in helping to promote and advance interdisciplinary academic studies at Western Michigan University. They include:

- The Sharing of People and Resources Between Departments
- Being Highly Protective of One's Curriculum
- Enabling Seats for Both Majors and Nonmajors
- Addressing Prerequisites for Students Wanting to Take Course Related Work

- The Potential Challenges Associated with the New SRM Model
- The New Budget Realities of the Covid-19 Pandemic

Among the recommendations put forward is that WMU should develop a set of consistent policies in terms of the cluster hiring of faculty; specifically, the ability to hire faculty whose teaching and research expertise span more than one department. In addition, WMU should consider curricular boundary spanning, where appropriate; specifically, the opportunity to join two or more programs together to increase the breadth and depth of course offerings as well as the joining together of faculty and resources.

Perspective 3. **Advancing Interdisciplinary Research**

One of the challenges of being a large Research II. institution is that there are a number of faculty pursuing research that is similar or complementary to other researchers on campus. At issue, is the fact that often such individuals do not know about the work of their colleagues. This is equally true from both a teaching and research standpoint. What's lost is the opportunity to collaborate with colleagues who share a common interest. The COVID-19 pandemic lends a new urgency to having research performed with the goal of addressing so-called "wicked problems." By that, we mean issues like climate change, opioid addiction and COVID-19 to name only a few.   Among the recommendations put forward is that WMU should create a *Futures Institute*; specifically, a special center whose goal is to organize and facilitate interdisciplinary research as well as identify possible curriculum growth areas for future academic development.

Perspective 4. **Advancing a Culture of Interdisciplinary Thinking**

Western Michigan University's current academic structure poses a challenge to interdisciplinary collaboration. The COVID-19 pandemic presents Western Michigan University with an opportunity for transformative change; that is, a chance to reenvision how we look at curriculum design. We, the members of the IAS project team, believe that Western Michigan University should promote a culture of interdisciplinary thinking. It should be one of our signature features as an institution of higher learning and quite possibly one important way

to distinguish ourselves from our peer institutions. The issue of value to the student has never been more important. The long-term success of any academic program will ultimately depend on the proper blending of its core strengths with a view towards the future in terms of innovative curriculum design. The report concludes with 12 strategies going forward (pp. 30-31). We have a unique and special obligation to prepare our students for the future world of work.

I. PROJECT DESCRIPTION

Curriculum Planning and Service to the Field

Designing curriculum in higher education is similar to being a software engineer. The information contained in a rapidly changing science, technology or business course can become quickly dated (or worse irrelevant) when educators and the materials they use become static. The best software designers routinely challenge themselves and ask whether they are making the kinds of products and services that their customers will want in the future. As Microsoft's founder Bill Gates shrewdly observes, "companies fail when they become complacent and imagine that they will always be successful." That imperative is every bit as true in the field of higher education. As educators we need to routinely ask ourselves the same kinds of questions as the software designer. Are we giving our students the kinds of information and experiential learning that is both timely and relevant?   The 21st century promises a very different set of challenges for our students than was the case in past years.

Creating Value

The field of higher education is under enormous pressure to create value for its students. The term *value* assumes a number of competing priorities, including a strong set of academic program offerings, an engaged student-life on campus, while being cost effective and ensuring a high-measure of employability for the student upon graduation. This has become especially evident given the events of the 2020 Covid-19 pandemic. Many of today's students are questioning the value of a four-year degree. As we look to the future, it is our belief that we are reaching a point in higher education where departments can no longer afford to go it alone. Rather, the value of reaching out within colleges and across the university at large becomes important in ensuring that various kinds of core knowledge areas and future skill sets are made available to our students.

The purpose of interdisciplinary academic studies (IAS) is to address questions that transcend disciplinary boundaries. Interdisciplinary academic studies, broadly speaking, tries to highly complex problems or real-world issues that cannot be fully addressed through

a single disciplinary lens. Students develop complex cognitive abilities by learning to make connections between ideas and concepts across different disciplinary boundaries. By enabling students to work on such problems, interdisciplinary education develops a number of intellectual skills. These include skills in problem solving, critical thinking, evaluation, synthesis, and integration.

Project Goals

In April 2019, the Faculty Senate Executive Board established the formation of an ad-hoc committee to examine the current practices of interdisciplinary academic study at WMU and evaluate both opportunities and challenges going forward. This ad-hoc committee is comprised of 10 representatives from the different academic colleges and service units on campus. This group has been charged with understanding the different types of interdisciplinary academic programs that currently exist at this institution. As part of their final report, this committee has been tasked with providing examples of best practices both nationally as well as at Western Michigan University. In addition, this project team has been asked to provide a set of recommended strategies with the goal of helping to advance interdisciplinary academic studies at Western Michigan University.

This committee was originally expected to issue a completed report to the Western Michigan University community by the completion of the Spring 2020 semester. Due to extenuating circumstances involving the COVID-19 pandemic and the limited operations status of the university campus, the original delivery date for this report has been extended to June 2020. The following represent some of the initial charges and assignments for this group.

- Identify and summarize the challenges associated with existing interdisciplinary academic programs at Western Michigan University.

- Identify examples of best practices of interdisciplinary academic programs at both nationally and at Western Michigan University.

- Identify and develop strategies going forward to help improve and advance the importance of IAS going forward.

- Identify ways we might approach the hiring of faculty for the purpose of interdisciplinary teaching and research.

- Develop best practices for promoting improved communication between departments proposing a new interdisciplinary major and potential faculty on campus who might make good collaborators.

- Develop and advance multidisciplinary research between faculty who are part of the greater WMU campus.

This project initiative is an example of "Think Big" in the most import sense of the term. Given the challenges associated with the COVID-19 pandemic, we believe that some of the recommendations and strategies put forward in this report will help us address the new realities that we as a University face. Western Michigan University is guided by three important guiding principles; specifically, to be learner centered, discovery driven and globally engaged. We, the members of the IAS project team, believe that the future of interdisciplinary academic studies will help to drive these principles forward. To that end, we offer four perspectives on the future of Interdisciplinary Academic Studies at Western Michigan University.

II. FOUR PERSPECTIVES AND KEY TALKING POINTS

Interdisciplinary and Multidisciplinary Studies at Western Michigan University

Western Michigan University is home to several different types of interdisciplinary and multidisciplinary programs that span both colleges and departments across campus. The term *interdisciplinary* refers to those academic programs and majors that are comprised of different units within the same discipline. Interdisciplinary Health Sciences would be an example. In contrast, the term *multidisciplinary* refers to those academic programs that span more than one field of study. This is evidenced by such programs as Product Design as well as Environmental and Sustainability Studies. See Table 1.

Table 1.
Western Michigan University
Interdisciplinary and Multidisciplinary Academic Studies (Select examples)

- Cybersecurity
  - Haworth College of Business and the College of Engineering and Applied Sciences
- Data Science
  - College of Engineering and Applied Sciences and College of Arts & Sciences
- Environment and Sustainability Studies
  - College of Arts & Sciences
- Gender and Women's Studies
  - College of Arts & Sciences
- Global and International Studies
  - College of Arts & Sciences
- Healthcare Services and Sciences
  - College of Health and Human Services
- Integrated Supply Management
  - Haworth College of Business and College of Engineering and Applied Sciences
- Interdisciplinary Preparation in Autism Service
  - College of Arts & Sciences and College of Education and Human Development
- Interdisciplinary Health Sciences PH.D. Program
  - College of Health and Human Services
- Product Design
  - College of Fine Arts, Haworth College of Business and the College of Engineering and Applied Sciences
- Telecommunications and Information Management
  - College of Arts & Sciences and Haworth College of Business
- University Studies
  - WMUx (Extended University Programs)

Institutes and Special Programs

- The Center for the Humanities
  - College of Arts & Sciences
- Lee Honors College
- The Haenicke Institute for Global Education
- The Medieval Institute and Master's Program
  - College of Arts & Sciences

Perspective 1.
Overcoming Institutional Barriers Through Flexibility

Problem Defined:

The challenge before us is our ability to work though the logistical barriers that makes interdepartmental collaboration difficult. There is a tendency among colleges (and department chairs) to think in terms of academic silos. While there are a number of excellent interdisciplinary and multidisciplinary academic programs on campus, there are a host of barriers that work to limit the growth of such efforts. At issue, is the fact that many of WMU's best IAS programs operate under different organizational structures. The types of majors, course offerings, sharing of faculty as well as accounting for student hour production vary from one program to another. A related concern is that Interdisciplinary programs often fail when one partner scales back on financial and instructional commitments during times of budget scarcity and realigns people and resources to meet the said department's primary academic focus. The following represents some of the barriers and disincentives that affect interdisciplinary work at other universities as well as WMU.

- **The Strict and Linear Definition of Departmental Programs and Fields of Study**

Western Michigan University, like most universities, uses a hierarchical structure that groups similar disciplines physically, through buildings and separate campuses. The same can be said in terms of pedagogical design through colleges and departments. These groupings are based on higher education models dating back centuries that focus on discipline specific pedagogy. These organized silos can discourage and impair interdisciplinary collaboration.

In many instances, faculty are largely grouped in departments with people of similar disciplines, knowledge and training. This homogenous mind-set can sometimes create barriers to intellectually broadening ones' exposure to topics and issues outside the specialty area of most faculty. The need to bring diverse perspectives and experiences together is central to driving collaboration and fostering innovation.

- **The Physical Separation of Departments According to Building Location**

Physical distance between stakeholder groups exist because colleges, departments and service units are housed in different buildings and campuses. Within those buildings, disciplines and service units are further isolated in sequestered hallways. This leads to limited interaction between individuals between different departments, colleges and other stakeholder units. The *out-of-sight out-of-mind* viewpoint can make the joint collaboration harder to sustain over time.

- **The Tenure and Promotion Process Tied to Individual Departments**

The Tenure and Promotion process is organized to reward singular disciplinary pursuits. When a faculty member engages in collaborative work outside his/her area of expertise, it is sometimes considered nonessential and can work against the person's attainment of tenure and promotion. There are two specific areas of concern that should be addressed in order to create a more collaborative-friendly tenure and promotion process. These include the AAUP contract and departmental policy statements. The AAUP contract only uses the word "interdisciplinary" once in the entire document.

> *42.§1.3 Engaging in scholarly activities, including research, writing, publication and creative artistic activities appropriate to the faculty member's discipline or interdisciplinary work.*

The AAUP contract does not limit interdisciplinary pursuits, however, it also does not promote it either.   Similarly, departmental policy statements provide specific guidelines for consideration in tenure and promotion of faculty. But departmental policy statements rarely include language designed to promote and reward interdisciplinary collaboration.

Promising Ideas: Courtesy Appointments

Broadly speaking, courtesy appointments are a mechanism to engage faculty from other departments on campus through a formal designation, but without any commitment of resources. There are many occasions when a faculty member in one department becomes an active teacher and researcher in a different department. This involvement typically occurs in the context of a joint interdisciplinary academic major and/or research collaboration.

In such cases, it may be appropriate for the secondary department to offer the faculty member a courtesy appointment. To be clear, there is a difference between a joint appointment and a courtesy appointment. Joint appointments presuppose salary obligations, service commitments, tenure and promotion requirements etc.   Whereas, a joint appointment is intended to promote the spirit of academic collaboration. The secondary department (or department head) should specify the courtesies to be extended, the term of the appointment (not to exceed five years), and a date by which the terms of the appointment should be reviewed by the department. Such courtesies may include one or more of the following:

- Inclusion in departmental faculty lists (as in catalogues and program brochures) as "faculty affiliated with the department."
- Participation in departmental faculty meetings, if qualified by rank and tenure status, but without being entitled to vote.
- Office Space (if available) and the reasonable use of support staff assistance.

Best Practices:

The following represents a select set of examples of best practices from other Universities.

1. Rockefeller University has no traditional academic departments and is structured based on particular research subjects.

2. The Humanities Center at Carnegie Mellon University promotes interdisciplinary collaboration to raise awareness on the connections between the humanities and other disciplines at the University.

3. The Beckman Institute, at the University of Illinois at Urbana-Champaign, is a 358,900 sq. ft. building dedicated to bringing together faculty from different disciplines to collaborate.

4. The Clark Center at Stanford University hosts the Bio-X program, which facilitates interdisciplinary research between science faculty and faculty from other disciplines. Faculty can apply for, and occupy, lab benches for up to one year. Stanford refers to these temporary lab benches as "hotel space."

5. Evergreen State College's collective bargaining agreement promotes the University's emphasis on interdisciplinarity by emphasizing it in the hiring process, the learning environment, and the curriculum.

6. Southern Oregon University's collective bargaining agreement emphasizes interdisciplinary collaboration when determining workload release time, professional development funding, and team-teaching.

7. The University of Southern California added language to its tenure and promotion document, specifying that if a faculty member presents interdisciplinary research, departments should take "special care" to evaluate the research, seeking external feedback as necessary.

Recommendations:

1. All faculty should be given the chance to request a courtesy appointment outside of one's home college or department.

2. The future development of interdisciplinary academic programs should be accompanied by a faster and more efficient curriculum review process at the College, Faculty Senate and University levels.

3. Some effort should be made to reconsider space allocation on campus where the emphasis is on IAS programs and projects, not traditional disciplines.

4. Where possible, provide dedicated offices and conference rooms in various buildings/colleges to be used for collaborative IAS efforts. These conference rooms could also be in spaces centrally located such as Waldo Library, the Office of Faculty Development etc.

5. Develop a promotional effort to strongly support changes to departmental/college tenure promotion documents to encourage and reward interdisciplinary work. This endeavor should be led by senior administration officials (President and Provost) along with the Deans and Chairs of their respective colleges and departments.

6. Include wording within the AAUP contract to promote interdisciplinary collaboration.

Perspective 2.
Promoting Innovative Curriculum Design

Problem Defined:

There are a number of practical problems and issues that we face in helping to promote and advance Interdisciplinary Academic Studies at Western Michigan University. They include:

- The Sharing of People and Resources Between Departments

- Being Highly Protective of One's Curriculum

- Enabling Seats for Both Majors and Nonmajors

- Addressing Prerequisites for Students Wanting to Take Related Course Work

- The Potential Challenges Associated with the New SRM Model

- The New Budget Realities of the Covid-19 Pandemic

- **The Sharing of People and Resources Between Departments**

At WMU, like most universities, academic departmental budgets are designed to focus on stand-alone "self-contained" curriculum. Departments have faculty whose first priority is the teaching of courses that directly benefits that department in terms of meeting curricular needs as well as student credit hour production. When a faculty member agrees to teach a course (shared by another department), that person's efforts are sometimes seen as time spent away (or time siphoned away) from the home department.

- **Being Highly Protective of One's Curriculum**

Departments can sometimes become highly protective of one's curriculum. Stated differently, departments can become *turf conscious* when it believes that they (and only they), are the most qualified to teach in certain subject areas. But what happens when you have cross-over points that involve such topics as artificial intelligence, environmental studies, leadership and social media by way of example. These are not areas that are solely the province of one college or department. Nor should they be. Instead, they represent opportunities for departments to engage in boundary spanning; finding one's natural ancillary partnerships and recognizing the natural skills sets that different departments and people bring to the subject

matter. It so happens that several of the examples cited above are taught by multiple departments and colleges across the University. What if, as part our curriculum mission, we could create an interdisciplinary major (or minor) that draws from the combined expertise of the many programs that offer coursework in these select areas.

- **Enabling Seats for Both Majors and Nonmajors**

A third problem has to do with ensuring seats for students engaged in interdisciplinary studies. The tendency among departments is to always give first priority seating to students majoring in that department. The ability to provide "reserved seating" is very hard to sustain and makes course offerings difficult to predict while causing frustration for students who are unable to plan their schedule. At issue, is the fact that if additional sections are required by non-majors, the cost is borne by the "home department", unless other arrangements are made. Stated differently, this becomes a resource issue. In the view of the IAS project team, a select amount of reserved seating should be designated for programs that have clear, well-structured interdisciplinary partnerships with other departments.

- **Addressing Prerequisites for Students Wanting to Take Related Course Work**

In addition to seating, one of the real inhibitors to the development of IAS is the problem of excessive prerequisites. In order to take the desired/sought-after-course, the student may find himself/herself having to take two to three prerequisite courses in order to gain admission. To be sure, some prerequisites are clearly necessary. On the other hand, some prerequisite courses do not need the level of preparatory training in order for the student to attend to the work that is required.

- **The Potential Challenges Associated with the New SRM Model**

As WMU plans for the future, the new SRM model creates opportunities to reward high-growth academic programs while recognizing the importance of preserving programs that provide important academic mission and service to the University. This, in turn, puts a certain amount of pressure on academic programs to generate high student numbers and credit hour production. There is some concern that it may prove detrimental to the pursuit of

interdisciplinary course offerings. The question is whether the SRM model can be designed in such a way as to allow academic entrepreneurship; specifically, the ability to invest in IAS programs that demonstrate enormous growth potential for the future.

A related problem has to do with revenue sharing and the cross-listing of courses. The simple cross-listing courses does not always work. It creates competition (incentives to get a student to sign-up for one prefix or the other) and because only one unit is typically fielding the instructor, this can create resentments. Alternatively, a system that may work better is to agree to a credit hour split (and revenue sharing) of courses and programs in advance of offering them. One example of this can be seen in the 2020 memorandum of understanding (MOU) signed between CEAS and HCoB for the BS in Cybersecurity program. This MOU includes a statement that both sides wish to share revenue in keeping with the the new SRM model.

- **The New Budget Realities of the Covid-19 Pandemic**

In a presentation given to the WMU community, it was pointed out that as a result of the 2020 Covid-19 pandemic, WMU is potentially faced with a 15-20% decline in student enrollment as well as a $45-85 million deficit going into the 2020 Fall semester. Approximately 76.2% of the University's general fund goes to academic affairs. Faced with these new realities, WMU is being forced to rethink its academic mission and by extension the organizational structures of schools and departments all across campus. To that end, we offer the principle of boundary spanning. By that we mean, finding one's natural ancillary partnerships and recognizing the complementary skills sets that different departments and people bring to the subject matter.

Promising Ideas: Curricular Boundary Spanning:

The term *boundary spanning* refers to the idea of finding one's adjacent (or complementary) areas that add value to one's business or educational enterprise. This involves establishing direction, alignment, and across boundaries in service of a higher goal. In a curriculum sense, this can take many forms.

- **Departmental Program Mergers**

The merging (or joining together) of two or more departments and faculties presents WMU with the opportunity to reenvision curriculum in general and IAS in particular. There are two potential benefits that a merger between departments might offer. First, the merger gives the newly joined school or department a chance to create opportunities for IAS collaboration from both a curriculum as well as a research standpoint.   There is the potential to increase the breadth and depth of course offerings. Second, given the projected financial forecast for the University, the right merger offers up the opportunity for potential cost savings by reducing redundancies in administration and staffing. It could also mean less reliance on term appointments and part-time instructors. Another approach is to create a set of interdisciplinary schools. In this scenario, the current departments exist as before, except under one administrative head.

The challenge lies with trust; specifically, joining a group of faculty who have never worked together in the past and who do not know each other. All this, at a time when WMU is grappling with the downsizing of resources (and possible academic program review), would make faculty understandably cautious in their thinking about such an arrangement. To be clear, a merger agreement may be right for some departments but not all.

- **Cluster Hires**

Curriculum boundary spanning presents opportunities for the University to consider *cluster hires*; that is, the ability to recruit faculty whose teaching and research expertise span more than one department or professional area. Consider, for example, the possibility of bringing faculty and resources together around select major topics such as environment, digital media and artificial intelligence. This person becomes an important bridge that links related disciplines together. In sum, the COVID-19 situation presents an opportunity for colleges, schools and departments to broaden their curriculum base by creating natural partnerships between departments and faculty that share overlapping curriculum interests.

- **External Partnership Agreements**

Curriculum boundary spanning can also be thought of in terms of external partnership agreements between WMU and other colleges and institutions. The Haenicke Institute for Global Education (HIGE), for one, has done a good job of creating new articulation agreements, twinning programs, and dual degrees between WMU and various international Universities. In addition, HIGE's recently launched global classroom initiative has demonstrated the power of conferencing technology in bringing students together in various classroom settings from two or more universities for special presentations and joint exercises.

Table 2. provides examples of best practices at other Universities with the goal of promoting interdisciplinary academic studies.

Table 2.
Select Examples of Interdisciplinary Academic Studies – United States

Best Practices:
1. This represents multidisciplinary approach where faculty from different disciplinary homes come together to offer a joint degree.

- Duke University: Masters in Interdisciplinary Data Sciences
    - https://datascience.duke.edu/

2. The focus on providing a core set of courses while providing flexibility to develop more customized areas of specialty and skill sets.   In educational parlance, it is referred to as a "build your own major" approach

- Stanford University: MA in International Policy Studies
    - https://fsi.stanford.edu/masters-degree/
- The University of Tennessee – Martin: Bachelor of Interdisciplinary Studies Degree
    - https://www.utm.edu/departments/bis/

3. The emphasis here to provide an interdisciplinary approach for nontraditional or older returning students to campus who value flexibility to their program study.

- University of Virginia: Bachelor of Interdisciplinary Studies Degree Program
    - https://www2.virginia.edu/registrar/records/04-05ugradrec/chapter12/chapter12-6.htm

4. The focus is on building a research-driven program of liberal education. It is a problem-based program (i.e., majoring in a problem), not a discipline. The goal is to provide students the opportunity to develop an individualized interdisciplinary Research Program that includes a Course of Study and a Senior Thesis.

- University of California, Berkley: Interdisciplinary Studies Field
  - https://isf.ugis.berkeley.edu/

5. The goal here is to offer an on-line Bachelor of Arts degree in interdisciplinary studies. The student takes a core set of courses in conjunction with three minors that correspond to the student's workplace goals.

- University of Arkansas: Bachelor of Arts in Interdisciplinary Studies
  - https://online.uark.edu/programs/bachelor-arts-interdisciplinary-studies.php

Best Practices: Western Michigan University

The following represents some examples of the best examples of interdisciplinary and multidisciplinary academic programs at Western Michigan University.

- Integrated Supply Management
  - Haworth College of Business and College of Engineering and Applied Sciences
- Product Design
  - Richmond Institute for Design and Innovation, College of Fine Arts
- Healthcare Services and Sciences
  - School of Interdisciplinary Health Programs, College of Health and Human Services
- Environment and Sustainability Studies
  - College of Arts & Sciences
- Telecommunications and Information Management
  - College of Arts & Sciences and Haworth College of Business

Each of these programs are at the intersection of several different disciplines and provide a higher degree of richness and depth than would be achieved if such material was offered by a single department. The value proposition is that each of these programs calls upon the instructional skills of different faculty who bring a unique set of skills to the curriculum.

Integrated Supply Management

The Integrated Supply Management program was founded in 1992 and was one of the first programs of its kind to integrate business and engineering courses. Today, the program combines information technology along with a strong engineering core to provide business students with a unique, diverse and in-depth education. Flexible elective options across disciplines as well as special topic courses and industry workshops provide students with an integrated development environment to prepare them academically, personally and professionally to achieve their career goals. This program has been the recipient of multiple national awards over the years.

Product Design

The product design curriculum is multidisciplinary and interdisciplinary, requiring courses in art, design, engineering, and business. This prepares students for the complexities of modern industry. The Richmond Institute for Product Design offers cross-disciplinary, participant-centered courses, with the goal of addressing the pressing issues of the day via curricula, sponsored projects, and research and development. These interdisciplinary teams formulate solutions based on abstract concepts, in a defined amount of time, and in ways that display an openness to work together with specialists from related fields.

Healthcare Services and Sciences

The Bachelor of Science in Healthcare Services and Sciences (BS-HSS) is an undergraduate program that prepares students to understand the healthcare world and how to successfully work in it. Through required courses and a capstone experience, students gain the knowledge and experience to take their place as interdisciplinary team members in today's health services systems. A student in BS-HSS can focus their studies in one of several ways, including:

- The Clinical Practice in HealthTrack.
- The Physician Assistant Preparation (PAPrep) Concentration
- The Audiology Preparation (AudPrep) Concentration
- The Blindness and Low Vision Studies Preparation (BLVSPrep) Concentration
- The Occupational Therapy Preparation (OTPrep) Concentration

Environment and Sustainability Studies

The interdisciplinary Environment and Sustainability studies program is dynamic and evolving, comprising faculty from a range of specialties in the natural sciences, social sciences and humanities. Established in 1972, this program is one of the oldest environmental studies programs in the nation. The environmental and sustainability studies program is central to the University's mission to "advance responsible environmental stewardship." Graduates in this program go on to have successful careers in such areas as environmental advocacy, regional planning, conservation management to name only a few.

Telecommunications and Information Management

The Telecommunications and Information Management (TIM) program operated from 2003-2020. The TIM program created a highly innovative curriculum by joining the work of Business Information Systems and the School of Communication. During its 17 year history, the TIM program had a 92% placement rate where its graduates are now working at some of the best media, telecommunications and information technology companies in the world. The benefit for these companies was the opportunity to hire students who were uniquely trained (representing both telecommunications and information technology management skill sets) to work with and adapt to rapidly changing communication technology.

University Studies

Starting in the early 1970's, Western Michigan University created the Applied Liberal Arts Studies program in an attempt to allow students to combine academic interests across a variety of disciplines. For several decades, thereafter, the program served students who did not fit the traditional mold. Such students had varied interests and were attracted to a program that would allow for learning across a multitude of discipline areas into a unified undergraduate degree. Today, University studies, offered under the auspices of WMUx (formerly Extended University Programs), is designed for the nontraditional student by taking an interdisciplinary approach to the awarding of a BA or BS degree. One important feature

is that it recognizes and integrates a student's prior learning and college coursework into one degree. The earning of a University Studies degree can be accomplished entirely online. In 2008, University Studies had just under 50 students. Today, University Studies graduates an estimated 400 students per year.

Promising Ideas: Minoring in a Problem

The idea behind this concept is that so-called *wicked problems* require solutions and practical strategies that exceed the capabilities of one department. The Covid-19 pandemic is the quintessential example of a wicked problem. This is the type of problem that may be grounded in healthcare. But it has biological, sociological, communication, business and governmental policy decision-making implications as well. The same can be said for environmental studies and climate change that brings together people from a number of ancillary fields including environmental science, biology, geography in the College of Arts & Sciences. Another example of a wicked problem can be seen with opioid addiction. The Specialty Program in Alcohol and Drug Abuse (SPADA) in the College of Health and Human Services brings together various specialists within the college to examine all aspects of alcohol and drug abuse.

Recommendations:

There are a number of ways that WMU can and should address innovative curriculum design. It starts with a commitment to recognize that no department can fully go it alone. Instead, we start with the idea that interdisciplinary academic studies requires an agreed upon set of standards and approaches that make curriculum planning consistent between departments. WMU should:

1. Provide students with ample opportunity to pursue interdisciplinary academic studies. This can include "minoring in a wicked problem."

2. Consider curricular boundary spanning, where appropriate; specifically, the opportunity to join two or more programs together to increase the breadth and depth of course offerings as well as the joining together of faculty and resources.

3. Develop a set of consistent policies in terms of cluster hires of faculty; specifically, the ability to hire faculty whose teaching and research expertise span more than one department. This should be a strong point of emphasis in terms of hiring priorities.

4. The development of new IAS programs and majors should have a corresponding advisory group comprised of Associate Deans, Department Chairs, Principal Faculty and College Marketing to meet twice during a semester for the purpose of engaging in strategic planning as well as addressing immediate teaching, curriculum and enrollment issues.

5. Students majoring in an IAS program should be given priority seating.

6. Departments should be asked to look at the question of prerequisites in order to determine what and how many courses are really needed in order for an IAS student to be able to take such courses if made available. Flexibility is key.

7. The development of future IAS programs should have budget models and explicit revenue sharing agreements in place prior to the launch of a new program and set of course offerings.

8. Utilize the new SRM model by investing and rewarding in innovative course design. IAS curriculum design, (like any new product start-up), requires investment of people and resources with a long-term view).

Perspective 3.
Advancing Interdisciplinary Research

Problem Defined:

One of the challenges of being a large Research II. institution is that there are a number of faculty pursuing research that is similar or complementary to other researchers on campus. At issue, is the fact that often such individuals do not know about the work of their colleagues. This is equally true from both a teaching and research standpoint. What's lost is the opportunity to collaborate with colleagues who share a common interest.

The University's budget projections will have an immediate and direct impact from the closure of buildings (and corresponding research facilities) to providing funding for select kinds of research as well as travel and presentation. This, in combination with

the SRM budget model makes the pursuit of interdisciplinary research uncertain. Nevertheless, we have an obligation to think creatively in terms of how the best support interdisciplinary research at this University.

Table 3. provides examples of best practices at other Universities with the goal of promoting interdisciplinary academic research.

Table 3.
Select Examples of Interdisciplinary Academic Research

Best Practices:

1. Focus on research clusters with the goal of uniting researchers across multiple academic disciplines to address our country's toughest challenges.
   - Eastern Carolina University
     - https://rede.ecu.edu/clusters/
   - The University of Southern Mississippi
     - https://www.usm.edu/vice-president-research/internalportal/usm-proposal-development-grant-program.php
   - Miami University of Ohio
     - https://www.miamioh.edu/cas/academics/centers/western-center/index.html

2. Encourage interdisciplinary programs that are offered at the undergraduate and graduate levels, through a number of colleges, and in some cases as joint ventures involving more than one college.
   - Miami University of Ohio
     - https://miamioh.edu/cas/academics/programs/western/
   - Ohio University
     - https://www.ohio.edu/departments/idp.cfm

3. Prioritize proposals which facilitate interdisciplinary efforts across departmental or college lines.
   - The University of Southern Mississippi
     - https://www.usm.edu/vice-president-research/internalportal/usm-proposal-development-grant-program.php

4. Create and/or provide support to groups that are routinely looking for the next interdisciplinary topics and funding sources
     - https://www.sciencedirect.com/science/article/pii/S0016328713001158
     - https://calendar.ecu.edu/event/interdisciplinary_research_awards_deadline_1388#.XjHQWxNKjkl

5. Promote and encourage the creation of Interdisciplinary Professional Fellows
   - Columbia University
     - https://www.incite.columbia.edu/mellon-interdisciplinary-fellows

- Michigan State University
    - https://grad.msu.edu/iit

6. Organize informal lunch meetings focused on a specific research topic that provide faculty a relaxed setting in which to network with others who share similar interests. These monthly meetings could be organized under the auspices of the Office of Research and Innovation with the goal of generating interdisciplinary curriculum and research ideas.
    - State University of New York at Binghamton
        - https://www.binghamton.edu/transdisciplinary-areas-of-excellence/

7. Identify and facilitate collaboration with potential partners for multi-disciplinary projects, and coordinate multi-disciplinary, multi-institutional proposals
    - Oklahoma State University
        - https://research.okstate.edu/interdisciplinarystrength/index.html

8. Promoting graduate student collaboration groups composed of students working in different disciplines from across campus
    - Kent State University
        - https://www.kent.edu/artscollege/flash-grants

9. Create a Futures Institute where the goal is to identify possible curriculum growth areas for future academic development as well as helping to coordinate interdisciplinary research
    - Strada Institute
        - https://www.stradaeducation.org/network/institute-for-the-future-of-work/

Promising Ideas: Create a Future's Institute

Western Michigan University should create a *Futures Institute*; specifically, a special center or project team tasked with identifying possible curriculum growth areas for future academic development. Special attention would be given to imagining new areas for curriculum development, helping to coordinate interdisciplinary research as well as working with the Office of Research and Innovation to host interdisciplinary research on campus. Another important partner is WMUx that has a market research team whose capabilities include forecasting next generation curriculum design trends.

While higher education has many individual and social benefits, one that stands foremost in the minds of many prospective students and their parents is its direct impact on their employability. Dell Technologies estimates that 85% of the jobs that will

be needed in 2030 don't even exist yet. The future of such worldly pursuits as biomechanical engineering, material sciences, artificial intelligence and health information technology, to name only a few, challenges Western Michigan University to create a center that is home to innovation and discovery.

Recommendations:

In keeping with WMU's vision of being discovery driven and globally engaged, the need to embrace and facilitate interdisciplinary research is imperative. Universities are at the forefront of scientific progress and discovery. Significant scientific advancement has been achieved through a discipline-based model. However, interdisciplinary research may accelerate discovery by approaching challenges in ground-breaking ways through multifaceted lenses. Interdisciplinary research is now a fundamental and invaluable component of contemporary science. WMU should take vigorous steps to advance faculty and student Interdisciplinary research. We suggest a series of interlocking strategies that can be used to increase the involvement of faculty and students in interdisciplinary research. Western Michigan University should:

1. Create a *Futures Institute*; specifically, a special center whose goal is to organize and facilitate interdisciplinary research as well as identify possible curriculum growth areas for future academic development.

2. The Research Policies Council of the Faculty Senate in conjunction with the Office of Research and Innovation (ORI) should dedicate/encourage a set number of FRACAA, SFSA and other specialty grants in support of interdisciplinary research.

3. The Office of Research and Innovation (ORI) should work with faculty to identify interdisciplinary research opportunities and convene meetings and specialized forums with potential participants.

4. Pursue cluster hires to promote interdisciplinary research in well-defined areas.

5. Emphasize publishing in journals and professional magazines that have high visibility.

6. Expand and enhance Waldo Library's data base that features the teaching specialty areas of WMU faculty as well as their research areas.

7. Dedicate a number of graduate student research and travel awards available for the purpose of conducting or presenting interdisciplinary research.

Perspective 4.
Advancing a Culture of Interdisciplinary Thinking

Problem Defined:

Organizational culture (or corporate culture) refers to the collection of beliefs, values and expectations shared by an organization's members and transmitted from one generation of employees to another. As Pilotta, Widman & Jasko (1988) point out, organizations (even large ones) are human constructions; that is, they are made and transformed by individuals. But what happens when organizational culture stands in the way of innovation? What happens when being tied to the past (and past practices) interferes with an organization's ability to move forward?

The combination of past success coupled with an unbending adherence to management orthodoxy can seriously undermine an organizations ability to step out of itself and plan for the future. Sometimes what passes for tradition and experience is inflexibility masquerading as absolute truth. As WMU President Edward Montgomery has said, "just because we've done something a certain way for a long time – that's not a strategy for the future."

Best Practices:

 Western Michigan University should promote a culture of interdisciplinary thinking.
 It should be one of our signature features as an institution of higher learning and quite possibly one important way to distinguish ourselves from our peer institutions. Advancing a culture of interdisciplinary thinking is essential for the success of the other three perspectives discussed in this report. According to 2016 *League of European Research Universities (LERU)* report,

Because interdisciplinarity is essential to the creation of new knowledge, the challenge is now to make interdisciplinarity a real force in universities while continuing to build on the strength of the disciplines…

Making interdisciplinarity count in academic institutions requires significant levels of investment and commitment within a system primarily built for disciplinarity. Within this agenda, disciplines should remain a central element of the academic system, as they have an unrivalled power to structure and understand the world. (p. 3).

The future of education lies in our ability to see beyond traditional and sometimes narrowly defined departments and programs. Today's students do not see course design and availability in terms of silos or narrow academic fields. This section identifies interdisciplinary strengths and opportunities at WMU and offers concrete ideas that provide structure and purpose for the future of interdisciplinary academic studies at WMU.

WMU Essential Studies

The newly created WMU Essential Studies has been designed to give the general education curriculum a clear and meaningful purpose that aligns with WMU's vision, mission, and strategic plan. Rather than thinking of each course in the program as separate and unrelated, students are encouraged to make connections between different skills, content areas, and habits of mind. To that end, WMU Essential Studies promotes faculty working collaboratively with one another across disciplines by encouraging team teaching and addressing the "real-world problems" and "big questions" through an interdisciplinary lens. The intent of such courses is to enable the students to approach a problem from multiple perspectives, interpret information, understand complex aspects, learn to listen to contrasting viewpoints, synthesize that information, and express an opinion both in writing and verbally. Students may choose from a wide range of disciplines, including areas applicable to their major/minors.

Promising Idea: University College/WMUx and Customized Learning

In order to successfully advance the cause of IAS at Western Michigan University, there needs to be a fundamental shift in the prevailing culture. Two important stakeholders in this effort, is WMU University College and the newly redesigned WMUx; both project concepts born out of the Think Big initiative launched in the fall 2019 semester. Both organizations are well-positioned to help WMU students advance the best features of interdisciplinary academic studies. University College could provide the necessary academic advising to foster such pursuits, and act as a hub to connect students to interdisciplinary programs and courses on campus. WMUx (formerly Extended University Programs) is home to the University Studies program as well as the office of faculty development. There is the opportunity to substantially reenvision customized learning.

III. THE POWER OF A GOOD IDEA: ACTION STRATEGIES

Western Michigan University's current academic structure poses a challenge to interdisciplinary collaboration. The COVID-19 pandemic presents Western Michigan University with an opportunity for transformative change; specifically, a chance to reenvision how we look at curriculum design. We, the members of the IAS project team, believe that Western Michigan University should promote a culture of interdisciplinary thinking. It should be one of our signature features as an institution of higher learning and represents one important way to distinguish ourselves from our peer institutions. It's not that other Universities don't have an equivalent number of Interdisciplinary academic programs. But we have an opportunity to do IAS better, more creatively and with greater long-term sustainability than our peers. The issue of value to the student has never been more important. In looking to the future, some of the most promising curriculum design opportunities and research questions are to be found at the intersection of multiple knowledge areas. We conclude this report by asking a simple question. What is the power of one good idea to shape the future? Here, by way of review, are 12 good ideas to consider.

1. Western Michigan University should promote a culture of interdisciplinary thinking It should be one of our signature features as an institution of higher learning.

2. All faculty should be given the chance to request a courtesy appointment outside of one's home college or department.

3. WMU should provide students with customized learning opportunities to match their interdisciplinary interests and professional goals. WMU Essential Studies, One WMU and WMUx represent important collaborators in achieving that goal.

4. The development of future IAS programs should have budget models and explicit revenue sharing agreements in place prior to the launch of a new program and set of course offerings

5. The future development of interdisciplinary academic programs and courses should be accompanied by a faster and more efficient curriculum review process at the College, Faculty Senate and University administrative levels.

6. WMU should consider curriculum boundary spanning, where appropriate; specifically, the opportunity to join two or more programs together to increase the breadth and depth of course offerings as well as the joining together of faculty and resources.

7. WMU should develop a set of consistent policies in terms of cluster hires of faculty; specifically, the ability to hire faculty whose teaching and research expertise span more than one department.

8. WMU should create a *Futures Institute*; specifically, a special center whose goal is to organize and facilitate interdisciplinary research as well as identify possible curriculum growth areas for future academic development.

9. Some effort should be made to reconsider space allocation on campus where the emphasis is on IAS programs and projects, not disciplines.

10. It is recommended that the development of new IAS programs and majors should have a corresponding Advisory group comprised of Associate Deans, Department Chairs, Principal Faculty and Marketing to meet twice during a semester for the purpose of engaging in strategic planning as well as addressing immediate teaching, curriculum and enrollment issues.

11. It is recommended that the Office of Research and Innovation (ORI) in consultation with the faculty should proactively work to identify interdisciplinary research opportunities and convene meetings with potential participants.

12. It is recommended that the WMU Office of Strategic Communication and the Office of Admissions use Interdisciplinary Academic Studies as an important selling point in promoting the unique, distinguishing features that a Western Michigan University education provides.

Creating Opportunities for Collaboration

Interdisciplinary teaching and learning is maximized when professionals from different disciplines work together to serve a common purpose and to help students make the connections between different disciplines or subject areas. Such interaction allows for new knowledge construction and a deeper understanding of complex issues. The joining together of separate academic disciplines can energize new pursuits and discoveries. The long-term success of any academic program will ultimately depend on the proper blending of its core strengths with a view towards the future in terms of innovative curriculum design. We have a unique and special obligation to prepare our students for the future world of work.

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