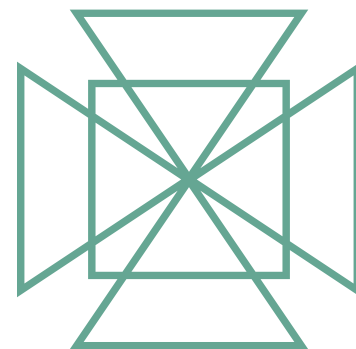


Minority Serving Institutions (MSIs) Public Interest Technology (PIT) Maturity Model

Minority Serving Institutions (MSIs)



Public Interest Technology (PIT) Maturity Model

Research Team:

Alice Ginsberg

Marybeth Gasman

Natalie Passov

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PURPOSE & METHODOLOGY FOR DESIGNING THE MSI PIT MATURITY MODEL

In June of 2022, New America partnered with the Rutgers Center for Minority Serving Institutions (CMSI) with the goal of engaging more Minority Serving Institutions (MSIs) in PIT-UN and to create an evidence-based methodology for determining the capacity and readiness for MSIs to successfully enter the PIT-UN ecosystem (i.e., the PIT Maturity Model). CMSI's research approach included: identifying the elements that MSIs have in common that make them successful members of the PIT-UN ecosystem; ascertaining the types of technical assistance and scaffolding needed by MSIs who are ready to enter the PIT ecosystem; and, underscoring the elements that might deter or challenge MSIs from entering the PIT-UN space.

Specific CMSI deliverables included:

1. Conducting interviews with senior staff members at New America, and with faculty at select MSI PIT-UN members (as identified by New America), with the goal of understanding more about the development, engagement, evolution, and future of PIT at diverse academic institutions. These interviews included a series of historical, theoretical, and forward-facing questions including: How would you define PIT and what makes PIT unique from other academic disciplines or initiatives? What are the range of PIT-related programs, resources, research opportunities, and academic offerings currently being offered to students and faculty? How has PIT been conceptualized, how does it function as an interdisciplinary program, and relatedly, what are its core methodologies? What have been the major challenges and opportunities surrounding PIT-UN membership, specific to the MSI context?
2. Designing and distributing a survey to the MSIs that are currently members of PIT-UN, with similar goals to the interviews but using a more quantitative methodology. For example, most questions asked respondents to rate different aspects of institutionalizing PIT on a scale of 1 (not challenging) to 10 (very challenging). The survey included a few open-ended questions as well which were optional.
3. Create a PIT Maturity Model, which can serve as a guide for bringing more MSIs into the PIT-UN ecosystem and providing them with needed support.
4. Identify MSIs, using the PIT maturity model, that are early adopters in the tech space, which (PIT-UN) can invite into conversations about joining PIT-UN.
5. Research and author an "internal" paper with insights from current PIT-UN MSI members assessing the current landscape of PIT at MSIs and making recommendations for future growth and action.

WORKING DEFINITION OF PIT

For the purposes of developing the Public Interest Technology (PIT) Maturity Model, we are using the following definitions of PIT. The first is as defined by both New America and the Ford Foundation in the recent book *Power to the Public*:

The study and application of technology expertise to advance the public interest, generate public benefits, and/or advance the public good.... Public interest technology offers us a framework for which to consider how to advance and protect human rights in a digital world. It argues for a systemic way of studying technology in the world – including unforeseen and adverse consequences. And it offers us a new language and vocabulary with which to understand how technological tools and innovations may impede and erode hard-fought rights won and gained from the early nineteenth century through the twentieth century. (Slaughter & Walker, p. 141-142)¹

The second is defined by PIT-UN practitioners at Arizona State University – David Guston and Sara El Sayed – who created a process guide² for identifying and cataloging PIT at colleges and universities:

PIT is an umbrella term that refers to the study and application of technological expertise – in its design, data, and delivery – to address the public interest, general public benefits, and/or promote the public good.... Technology in this case includes not only the set of capabilities to create, apply, study, and use new technologies [but also] an understanding of the core ethical, legal, policy, and societal dimensions of technological change.... Put perhaps most concisely, the idea behind PIT is to be able to train people to answer, the question: “How should we innovate?”.... PIT includes

best practices for human-centered design processes, product development, engineering, data science, and other new technologies that center on solving public problems in an inclusive, iterative manner while addressing inequities that may also be present. PIT activities should match good governance with the tools of technology to truly meet and serve the needs of the public.... PIT includes governance and ethics as well as scientific and technological research and design, and thus its activities are spread across the full scope of institutions of higher education, rather than being focused in a single academic unit (such as law) for professional training. (p. 2)

While PIT was partially modeled on the field of public interest law, El Sayed and Guston (2022) also call attention to the relationship between PIT and “Responsible Innovation (RI)” which “often emphasizes realistic and sincere societal engagement, ethical deliberation, diversity, and openness.” (p. 2)



1. McGuinness, T. & Schank, H. (2021). *Power to the public: The promise of public interest technology*. NJ: Princeton University Press.

2. El Sayed, S., and Guston, D.H., (2022). *Public interest technology case studies: Arizona State University*. School for the Future of Innovation in Society, Arizona State University. Tempe, AZ.

PIT AND JUSTICE, EQUITY, DIVERSITY, AND INCLUSION (JEDI)

A core component of PIT is a focus on issues of justice, equity, diversity, and inclusion (JEDI) as used in PIT case studies at various PIT-UN member universities, including Arizona State University, Howard University, and Estrella Mountain Community College.³ The following activities have been identified as prime indicators of an institution's readiness to adopt PIT:

- Understanding and learning that technologies affect different people differently.
- Working with and for marginalized groups to have their voice in technological choices, including those made by the institution.
- Facilitating structured opportunities for community co-design or research agendas and strategic investments.
- Creating mentorship programs for underserved communities.
- Tailoring training programs for underserved communities.
- Creating mechanisms that encourage PIT research with a JEDI focus.
- Prioritizing investments in education and scholarship that have JEDI outcomes.
- Evaluating institutional barriers and finding mechanisms to remove them.
- Creating recruitment and retention protocols for underrepresented communities.

WHY MSIs ARE NATURALLY ALIGNED WITH PIT AND PIT-UN ECOSYSTEM

Working with the above definitions, MSIs are naturally aligned with the premise and goals of PIT as they are by their very nature committed to addressing issues of diversity, equity, inclusion and access, social justice, community empowerment, diversified leadership, pathways to a broader array of academic and professional opportunities, and economic and viability for underserved groups

of students and their communities – including students of color, low-income students, immigrant and first-generation students, among others. Although MSIs represent diverse institutions in terms their founding, size, location, student demographics and academic programs, identifying and solving issues in the public interest are at the core of their missions and identities.

PIT 2022 AND BEYOND: CHALLENGES AND OPPORTUNITIES

In August 2022, CMSI conducted an interview with Andreen Soley (Director of Public Interest Technology) and Brenda Perea (Project Manager for Public Interest Technology) at New America. The goal of this interview was to gain a better understanding of the history and evolution of PIT in general, and the development of PIT-UN specifically. The interview also sought to help CMSI identify key challenges and opportunities that have had an impact on PIT-UN members in the past or that might influence their future development and participation.

Using the transcript and data from this interview, CMSI then created an interview protocol that we used to conduct additional interviews with key faculty at five PIT-UN MSI member institutions (as identified by New America). These included: David Guston and Sara Ali El Sayed at Arizona State University, Kevin Harris at Stillman College, Carlos Sequera at Miami Dade College, Katie Cuminsky at College of Staten Island, CUNY, and Denise Ferebee at LeMoyne-Owen College (see Appendix A for interview protocol).

We also distributed a survey to the current PIT-UN MSI members, although the response was very low despite several attempts to secure participation (see Appendix B for a copy of the survey). Through this research we were able to identify the core challenges and opportunities inherent in adopting PIT within the higher education context generally, and at MSIs specifically.

3. El-Sayed, S. and Guston, D.H. *Public interest technology case studies*. School for the Future of Innovation in Society, Arizona State University, Tempe, AZ, 2022.

Some of the primary **challenges** that we have identified for MSIs interested in engaging more fully with PIT include:

- » PIT is inherently interdisciplinary and thus does not fit easily into the siloed, disciplinary structure of most institutions of higher education.
- » Many faculty and students have never heard the term PIT and are thus unfamiliar with what it means and why it is important.
- » Institutional leaders – such as presidents, provosts, deans, and department chairs – are hesitant to disrupt traditional models of learning, including rewarding faculty for doing collaborative teaching, research that borders on other disciplines, or courses that prioritize student engagement with community organizations.
- » Lack of opportunities for faculty to participate in professional development about PIT, including access to open educational resources they could use to supplement the curricula and create new courses.
- » Tensions between innovative junior faculty who are seeking tenure in their division and more senior faculty who often have more traditional ideas about teaching and learning.

- » Lack of funding for the development and staffing of new programs, convenings, and research centers that would focus on PIT-related topics.

Conversely, some of the **opportunities** we have identified for MSIs interested in engaging more fully with PIT, include:

- » MSIs have issues of public interest, social justice, and equity as part of their core missions and are thus primed to incorporate PIT into their existing programs.
- » MSIs represent diverse cultures and communities, including those most vulnerable to misuse of new technologies.
- » MSIs are student-centered institutions, and therefore, are likely to be more responsive to student interests (of which the impact of new technologies is vital).
- » MSIs are, by nature, innovators in higher education, as they seek to provide new models for student engagement, collaborative and project-based learning, design thinking, culturally relevant pedagogy, critical inquiry, and community empowerment.



Below we provide greater detail based on our interviews and research on PIT:

- **PIT must involve conversations about power and privilege.** While PIT naturally focuses on technology and STEM-related topics, it is also relevant to the arts and humanities because it involves the production of material culture and poses questions about society that involve critical thinking about equity, access, distribution, culture, privacy, morality, ethics, and leadership, to name a few. As one respondent shared:

Technology is a transformation of knowledge and the capacity of transforming reality to serve to serve humanity.... This is about a problem or issue related to power. So, we try to build power for those who have very low power to give them tools to better survive and grow in the life.

Another respondent noted:

I would say some of the core things that you need to consider with PIT is: What is the purpose? What need is there for the technology that you are creating? What need is it supposed to meet? Does this idea do any harm? PIT must meet the need for everyone because technology can be misused. People have to be aware of how technology affects them.

- **There is some disagreement as to whether PIT should continue to be designed and offered as an interdisciplinary program or be condensed into a single academic discipline or degree program.** At most universities PIT remains a topical focus or concentration that cuts across many different courses and disciplines, rather than a stand-alone department, discipline, or degree program. According to Andreen Soley:

When we were thinking about what PIT means and what distinguishes it from

anything else, we have folks who have been thinking about the history of technology. We have folks who've been thinking about the impact of technology. We also have folks who are thinking how do we regulate technology? But, in many ways, it was our attempt to blend those groups and put all those questions under one umbrella that allows a set of scholars to engage with each other and talk about those things.

One rationale for keeping PIT entirely interdisciplinary is that its underlying principles are broadly shared across institutional departments, leading some to the conclusion that: "We see the need to have a single defined 'home' for PIT at the University to be unnecessary, and perhaps... even a bit counterproductive." An alternative structure, however, can be found Arizona State University's (ASU) School of the Future of Innovation in Society. As part of the College for Global Futures, ASU's School of Future Innovation hires and tenures its own professors and allows students to pursue undergraduate and graduate majors in PIT including a Master of Public Interest Technology.⁴

Another way of institutionalizing and structuring PIT is found at NYU, which houses an Alliance for Public Interest Technology including over 60 faculty affiliates and led by staff from the Center for Faculty Advancement. While they do not offer a degree in PIT, they do serve as an institutional home and professional network. While there are pros and cons to each of these approaches, it is fundamental that PIT continues to bring diverse scholars together who can ask cross-cutting questions and combine disciplinary perspectives. Regardless of the exact structure, interviewees agreed that "one discipline alone can't do this journey," emphasizing that:

One of the things that we've been trying to do is to unpack and make visible

4. For example, students at Arizona State University can pursue a [Master of Science and Technology Policy](#) or an [MS in Global Technology and Development](#).

what technology makes invisible.... So, part of PIT is unpacking the seemingly seamless experience that you're having in technology and letting you see the different impact that it's having on different communities at various points in time. What's going to be happening with marginalized communities? And so, PIT offers up a bigger space for that, which is why I think that the questions are still out about whether this is the full discipline on its own or not.

It is likely that PIT will evolve in different ways at different institutions, much like ethnic studies, gender studies, and urban studies.

- **There was greater consensus as to what defines PIT's primary methodology.** PIT-UN members stressed critical inquiry, collaborative problem solving, project-based learning, systems thinking, storytelling, immersive learning, and community engagement as some of the primary components of PIT. One respondent summed this up, noting that:

The methodology is ethics. Open your eyes and open your ears to listen to the reality, to look at people. Ask yourself: Where is this technology leading us to? What are our institutions leading us to? What are we teaching our students? How are we producing ourselves for a better world?

PIT is also strongly based in design thinking wherein practitioners are encouraged to think about change from an empathic and user-centered perspective otherwise described as "Needs First. Then Technology." According to McGuinness and Schank (2021): "Even when technology turns out to be integral to a solution, it is never the first place to start" (p. 68).

- **There is an expressed need to diversify funding for PIT beyond New America/The Ford Foundation.** For example, many people interviewed felt that PIT is something that the

National Science Foundation (NSF) should be supporting. When asked what is preventing this kind of funding, it was mentioned that because PIT is interdisciplinary and often doesn't have a "home" (unlike public interest law, which is squarely based in law schools), funders are less sure about exactly what they are funding. According to one respondent: "I think funders need to be persuaded that infrastructural development here beyond project development is absolutely crucial." Another noted that: "I'm wondering if we're just in that infancy stage where all these different institutions are trying in a way to create a proof of concept and we're just not there yet." It was also mentioned that many venture philanthropists who made their fortunes through technology do not necessarily focus their giving on technological issues. According to one respondent, one possible reason for this is that: "They're not interested in disrupting the core business enterprise. PIT is in some ways trying to compete with or compete against this privileged position."

- **PIT's focus on questions about JEDI and its intersectional lens, which focuses on multiple underserved communities, makes it a natural fit for MSIs.** As previously noted, a common component of MSIs – regardless of how they were founded – is the composition of their student bodies that are primarily students of color, first generation students, and low-income students.

According to one interview respondent at a PIT-UN MSI:

We have more than 50 percent of people in the poverty. We even have students who are homeless. Sometimes we find students sleeping in their cars. We have an important number of students who are the first person in their family to go to college. The average age average of students here is more than 25 years old. At our core, the way this institution works is to help people overcome their difficulties. We are more than an educational institution we are something like a social institution. We're

part of this this culture and of this city. We just opened our doors because this is a majority-minority society and giving those students opportunity is the best thing that we can do in public interest. Our reason of being is social justice.

Another respondent agreed that the issues are different at majority institutions and MSIs, emphasizing that MSIs must focus on more than just the theoretical, they are bound by addressing immediate, authentic and local problems, promoting student awareness and encouraging activism and engagement: “At a Minority Serving Institution, it's going to be how do I teach my kids that this aspect of technology affects their daily lives and how to how to advocate for themselves?”

- **Co-teaching remains an obstacle to adopting PIT, as most faculty do not have the time for, are not prepared for and/or are not rewarded for reaching across their discipline to work with faculty in other departments and schools. This is particularly salient at MSIs.** According to a report publishing in 2021 about the state of the PIT-UN: “MSI were more likely to report lack of faculty buy-in as a barrier to growth, with half citing this concern” (p. 17).⁵ As expressed by one interview respondent: “One of the reasons why it is not easy for faculty at MSIs to work across disciplines is because people are very busy people. They have a large teaching load, so they don't have much extra time.”

Another respondent noted similarly:

At smaller [and less resourced] institutions, many of which are MSIs, faculty members are already teaching a lot of classes. They are wearing a lot of hats. So then to say, ‘here's something new,’ even for the ones that are like ‘sounds like a great idea,’ if

they're teaching a course load of five courses and serving as an advisor it's just difficult as to ask them to commit a lot more time.

This person added that the danger of overload is especially true for junior faculty members “that have that drive and ambition but they're also wanting to make use of their time so that they can build their portfolio, especially if they're on tenure track.” Another MSI respondent added that bringing faculty on-board with PIT “Requires you to do a pitch. You actually have to do a sales pitch such as: ‘I have an idea and I think that you can use your expertise within this space.’”

By contrast, some respondents believed that although junior faculty were focused on getting tenure and thus may be reluctant to do work outside of their discipline, there was another side to this coin. They believed that the hardest part of adopting PIT wasn't resistance from junior faculty as much as “convincing the faculty who are traditionalists.” According to one respondent, many senior faculty are “losing the connection from what's current, and you can't remain in this field and do research and not be current.” It was also suggested that another way to make interdisciplinary work more attractive to faculty is to have grant money available specifically for collaboration, participatory action research, and community engagement projects.

- **There was some concern that PIT might be treated like a passing academic trend, rather than something that is institutionalized and growing more critical all the time.** As noted in *Public Interest Technology: University Network: Understanding the state of the field in 2021 Report*: “PIT tends to act more as a label that many universities want to get behind than as a coherent concept that involves a shared language and structural efforts to

5. Lusk, K. (2021). *Public interest technology university network: Understanding the state of the field in 2021*. Boston University.

produce interdisciplinary community” (p.29). One interview respondent told us:

I don't want PIT to be seen as some sort of a fad. So, how do we institutionalize the successful parts of this work? For example, if you created a course does that course get listed the following year? What is it look like? Does it live beyond us if there's so much student demand that other programs have been able to get [PIT related courses] adopted into the curriculum?

It was agreed that genuine investment in PIT needs to be proven at the highest levels of the university, including from Presidents, Provosts, Deans and Department Chairs. Moreover, it was agreed upon that institutions of higher education must also have a “mission that is clearly articulated” in support of issues regarding public interest and justice. When asked how they would like to see PIT evolve, one respondent shared that:

I would love for all large universities to have some layer of strategic and comprehensive attention to PIT, which would create a counterbalance to what is broadly understood to be a mode of operation of large research universities that view students as consumers and is more attuned to the public-private partnerships than serving the public good.

- **When asked what impact COVID-19 had on PIT, respondents agreed that it brought issues of technology, access, equity, and ethics into the public eye at a capacity formerly unrealized.** According to one respondent:

COVID 19 has changed how colleges in general approach education. And there's a reckoning at all levels. What happened with COVID 19 was that it forced people to re-evaluate what's necessary for academic? Does doing what we've always done, did that really work? How do we creatively come up with the solution? It's changing how we can engage with our students overall at all grade

levels. I think the approach to academics and virtual is going to be completely different now. There is a need for the social dynamic so that people because people need human contact. But how we engage in that social aspect, that's the elephant in the room. That's going to be the challenge [academic institutions] are going to have to face in the future. There is going to be pros and cons, and you're going to get into the haves and the have-nots. Who has access? Who does not have access? How do we guarantee that it's going to be a level playing field? And I think that's the major question and part of the major reckoning that's happening at all levels of academics right now.



PIT MATURITY MODEL

Indicator	No Evidence	Developing	Strong Evidence
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Very small STEM departments, with limited-to-no degree program offerings in PIT aligned disciplines and fields.</p>	<p>Robust STEM departments and degree programs, at least two or three of which are aligned with PIT.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/ or options for students to dual major or design their own concentration in PIT.</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>Small STEM faculties, often populated with adjunct professors who teach pre-packaged, traditional courses.</p>	<p>STEM programs have a majority of junior and senior faculty members at the helm who have are active in new curriculum development and faculty leadership opportunities.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>Most courses descriptions and learning objectives do not include any evidence of readings or topics focused on DEI, social justice and/or public interest.</p>	<p>A review of course descriptions and learning objectives suggests a focus on issues of DEI, social justice, and/or public interest, but it is often implied rather than explicit and/or concentrated in certain disciplines.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/ or public interest across a wide sector of courses and disciplines.</p>

Indicator	No Evidence	Developing	Strong Evidence
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institutional degree programs offer a traditional approach to teaching and learning that is primarily centered on the university campus and uses textbooks rather than real life case studies.</p>	<p>Institution has some courses that engage students in non-traditional and community-based learning, although they are not always well integrated into a defined set of learning goals.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has no significant resources to support research and curriculum in STEM and PIT.</p>	<p>The institution has a broad variety of resources for innovation in STEM and PIT research and curriculum -- including some evidence of faculty interest and engagement -- but these resources are primarily short-term, grant-funded, are not widely accessible or utilized, and are not up to date.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of justice, equity, diversity, and inclusion (JEDI) more generally.</p>	<p>No such class in existence.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primarily an elective and is not required for all students in all majors.</p>	<p>All students must take an interdisciplinary ethics or social justice course regardless of their major. The required course has clearly mapped learning objectives and standards around issues of systemic equity, opportunity and access, power and privilege, global cultures, and critical race theory.</p>

Indicator	No Evidence	Developing	Strong Evidence
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>Faculty stay siloed in their fields and there is no evidence of interdisciplinary collaboration or co-teaching across disciplines. There are no discernable structured and funded opportunities for faculty to engage in interdisciplinary collaborative such as research and grant writing.</p>	<p>Evidence of interdisciplinary collaboration and co-teaching can be found in course descriptions and syllabi, and there is ample evidence of faculty with dual academic appointments in the same school (for example in History and Africana Studies, or in Education and Psychology). There is some evidence of faculty collaboration in research and grant writing, but the onus is primarily on the faculty.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other's research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>The institution has no formal interdisciplinary degree programs or opportunities for students to take upper-level courses/electives outside of their disciplinary degree program/division.</p>	<p>The institution has some departments or programs that draw heavily on interdisciplinary methodology (such as gender studies or ethnic studies), and/or requires students to take a minimum number of electives outside of their major discipline.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center, or Department of Interdisciplinary Studies.</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	No Evidence	Developing	Strong Evidence
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>No such articulation agreements exist.</p>	<p>Institution has informal but demonstrable relationships with local community colleges which serve as feeder schools (e.g., joint participation at recruitment events).</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has shown no identifiable interest in innovative and/or interdisciplinary programming or public interest work.</p>	<p>Institutional leadership has been at the helm of developing at least one innovative and/or interdisciplinary program and has expressed an intent to support future innovation including public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>

Indicator	No Evidence	Developing	Strong Evidence
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has very traditional and stringent criteria for hiring, retention, and promotion that does not prioritize innovative or interdisciplinary work, action research, or community service.</p>	<p>Institution has documented incentives for faculty interested in innovative or interdisciplinary work, action research, or community-based service (such release time) but does not factor this work in review for faculty tenure and promotion.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>Funding and opportunities for formal faculty professional development, mentorship, and OER are scarce to non-existent regardless of what the topic.</p>	<p>The institution has a “Teaching and Learning Center” or “Center for Community-based Research” where faculty can go for professional development, mentorship, and free resources. The onus is on the faculty to take advantage of these resources.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel, and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Most institutional student-centered clubs or initiatives are traditional in nature and do not address either PIT-related or JEDI topics.</p>	<p>Examples can be found of at least two student clubs or initiatives that focus on both PIT-related and JEDI topics, but the longevity of these clubs are dependent on small grants and student interest, rather than long-term institutional support.</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	No Evidence	Developing	Strong Evidence
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has no record of high school outreach, mentoring and/or bridge programs at all.</p>	<p>Institution has a demonstrated interest in developing high school outreach, mentoring and/or bridge programs (as demonstrated by grant applications and strategic planning documents), but these programs do not necessarily focus on PIT related topics.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>Institution has experimented with at least one or two such programs and shows interest and commitment to supporting and developing these initiatives further, but they do not yet focus on PIT related topics.</p>	<p>Institution has many such opportunities, and has robust and active partnerships with employers, non-profits, funders, or government agencies who support these programs and whose mission is aligned with PIT.</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>	<p>Institution offers few- to none of these kinds of opportunities.</p>	<p>Institution is in the process of developing mentorship, post-doc, and faculty fellowship programs, but does not have yet a strong pool of funding or interest to support them, or a focus on PIT aligned topics.</p>	<p>Institution has numerous, ongoing, institutionally funded mentorship, post-doc, and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	No Evidence	Developing	Strong Evidence
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>	<p>It is difficult to impossible to find institutional data for research, program evaluation and student achievement on an institution’s website.</p>	<p>Institution is dedicated to making institutional data more public and accessible but still has very few channels for sharing and distribution.</p>	<p>Institution has a strong presence in academic conferences and journals, as well as the existence of blogs, op-eds, infographics, and research reports, wherein they seek to make faculty research, programs, and evaluations as public and accessible as possible. Institution has a section of their website devoted to public interest related courses, programs, scholarship, research, and community service.</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.¹</p>	<p>Leadership is not engaged on a local, regional, or national level public policy issues, and does not have a national presence in the higher education landscape. There is a lack of clear pathways or partnership with public and private institutions that support PIT.</p>	<p>At least one institutional leader is engaged in local, regional, or national public policy issues and/or has a national presence in the higher education landscape. The Institutional leadership has a history of working with other institutions that support PIT or are members of PIT-UN.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>

1. This category’s determinations are based on Marybeth Gasman’s direct knowledge of the institution and its leadership, as well as her history of interaction with leadership.

RECOMMENDATIONS: HOW NEW AMERICA CAN SUPPORT MSI ENGAGEMENT IN PIT-UN

- Invite MSIs to convenings such as the annual PIT-UN convening in October where they can learn first-hand about PIT adoption and innovation.
- Create a repository of open education access resources culled from other MSIs engaged in PIT to be used in adapting coursework or adding a PIT component to existing courses.
- Provide funding for MSI faculty professional development, research, and the development of new courses on PIT.
- Provide funding for MSI faculty to learn more about interdisciplinary education and co-teaching.
- Create a document that explicates the ways in which PIT is relevant to all disciplines, including arts and humanities, and outlines some of the core questions that PIT must address.
- Have scholarship money available for MSI students who want to pursue a degree that is heavily centered on PIT.
- Create a special interest group (SIG) for MSIs engaged in PIT where MSIs that have successfully adopted PIT can mentor newer institutions.
- Provide funding for international organizations to partner with U.S. MSIs – perhaps in the form of PIT-focused study abroad programs, as PIT is an international topic.
- Reach out to other funders to engage them in financial support of PIT-UN to diversify the funding streams and to further grow the network.



MSIs PRIMED TO JOIN PIT-UN**California State University, Fresno
(Hispanic Serving Institution & Asian American
and Native American and Pacific Islander
Serving Institution) – Appendix C**

California State University, Fresno houses an Institute for Media and Public Trust, which includes a variety of programs and research reports on issues of informed citizenry, media literacy, accurate reporting and information access, and supports a Students of Color Journalism Training Program described as:

We believe that America's newsrooms should reflect the diversity of the communities that they cover... The Institute for Media and Public Trust at Fresno State is working with local partner organizations on this program. All are committed to increasing diversity in local newsrooms.

**California State University, Northridge
(Hispanic Serving Institution) – Appendix D**

California State University, Northridge (CSUN) has a Diversity & Equity and Innovation grant program. Among the 2021-2022 winners is: Disseminating the Keys to Digital Equity: The CSUN Digital Grapevine. The program calls for recruitment of student leaders, or Digital Ambassadors, to create technology-related content and share with their social media followers thus becoming digital equity "influencers." The content will also be disseminated through the existing institutional channels, such as YouTube, social media, and student-facing web pages. This program also has the Top 5 Diversity-Equity-Innovation Grants Social Media Posts which is described as:

The Diversity & Equity Innovation Grant student ambassadors have been hard at work creating content to help close the digital equity gap for students, and we want to share with you their top five posts. All this content was created and posted entirely by students.

Lastly, California State Northridge has an Interdisciplinary Studies Degree Program offered through its Department of Liberal Studies.

**California State University, Sacramento
(Hispanic Serving Institution & Asian American
and Native American and Pacific Islander
Serving Institution) – Appendix E**

California State University, Sacramento has a College of Social Science and Interdisciplinary Studies, which prepares students to "engage in high level critical thinking across the disciplines," and to "work with scientists, engineers, artists, humanists and social scientists." The program "promotes the understanding of complex problems and global challenges that go beyond a single area of study." The program also includes an Institute for Social Research that partners with community-based organizations, state entities and businesses to focus on "Community Engaged Research" on contemporary global issues such as voting rights and an informed electorate.

**College of Menominee Nation
(Tribal College & University) – Appendix F**

The College of Menominee Nation offers a B.A. in Sustainable Agriculture:

Sustainable Agriculture is about providing for people in a place over the long term. It concerns itself with issues of land and sovereignty, natural systems, government policies, ancient to modern technologies, economics at several scales, and human biological and social systems. Efforts at sustainability among Indigenous cultures and communities serve as the primary focus of this degree program. Respect for our relatives in nature and responsibility for maintaining these relationships will also be emphasized, along with objective scientific techniques and findings that may lead to a more thorough understanding of these systems of life and provision.

The college also offers a B.A. Public Administration: The Bachelor of Arts in Public Administration will guide students into becoming conscientious citizens who can critically think, articulate, and convey professional and ethical virtues. Graduates of the Public Administration Bachelor of Arts program may find employment in city planning, nonprofit organizations, community action agencies, human services, tribes and

tribal entities, criminal justice, health services and other public sector settings, in entry-level, mid-manager level, or research positions.

Delaware State University
(Historically Black College & University) –
Appendix G

Delaware State offers an M.A. in Public Administration:

What makes Delaware State University's MPA unique is our focus on civic engagement and community empowerment. While our students develop the skills requisite for a Master of Public Administration, they will also develop their capacities for working alongside communities to empower individuals and communities as agents for their own development. The MPA at Delaware State University allows students to advance their own careers while also advancing community interests. To this end, students will learn and practice the skills necessary to assess community contexts, engage with community members, identify and build leadership capacities among others, and serve as agents of community change.... We do this through classroom instruction, community-based projects, and collaborative engagement with nonprofit and governmental organizations. Students have the opportunity to learn from academic faculty, experienced practitioners, each other, and the communities with which they will engage.

Delaware State also offers a course on public information technology. While it is not public interest technology, it is similar.

"This MPA Core course introduces students to the uses and applications of advancing technology in public and nonprofit administration as well as community engagement. It begins by exploring the ways in which governance and Public Administration were and are impacted by the rise of information technology broadly and explores the implications for these impacts on students' careers as public administrators. It explores some of the ways technology has been leveraged by the public and nonprofit sectors for understanding and responding to

challenges as well as empowering communities. Further, students are exposed to some of the more common software packages they will encounter throughout their careers."

Delaware State has a thriving College of Agriculture, Science and Technology which has an "integrated mission of teaching, research and outreach (extension) that provides an experiential education for students and research-based educational programs for Delaware residents." The College offers a B.S. in Information Technology which "offers a balance of theoretical knowledge and practical, hands-on experience." Students "develop critical thinking and communication skills, as well as an appreciation for the social implications of computing. They graduate with the ability to devise creative IT solutions that empower scientists, artists, inventors, and organizations."

Dillard University
(Historically Black College & University) –
Appendix H

Dillard University is well known for its School of Science, Technology, Engineering and Math, which even offers several dual degree programs in partnership with Boston University, Columbia University, Georgia Tech, and Tulane, among several other schools. Dillard offers several K-12 outreach and pipelines programs, including the Louisiana Alliance for Minority Participation (LAMP) Program, one of 34 National Science Foundation Alliance Programs nationwide. Through mentoring and outreach, the LAMP program seeks to increase the number of students of color receiving bachelors and graduate degrees in STEM.

Likewise, Dillard University has a high school outreach program called Women in Science, Technology, Engineering and Math, which is sponsored by IBM and a free summer STEM enrichment program for middle school students called the Verizon Innovative Learning Stem Achievement Program. Lastly, Dillard houses a Center for Racial Justice with the goals to "change the way people of color and their communities are policed through education, community relationship building, civic engagement training, services, partnerships, and utilization of relevant resources."

Diné College (Tribal College & University) – Appendix I

Diné College's School of Science, Technology, Engineering and Math (STEM) has a focus on the social and cultural implications of technology, as described on their website:

Diné College's Associate of Science Degree in Mathematics is designed to provide students with the opportunity to acquire skills and knowledge that include the ability to apply mathematical principles competently, think critically and creatively, understand abstract concepts, and use technology to ensure the well-being of the Diné People.

Fisk University (Historically Black College & University) – Appendix J

Fisk University has a B.A. Program Homeland Security in which "Students enrolling in the program will gain an understanding of the modern challenges of transnational security, terror groups, and cyber warfare through a mix of theoretical and applied learning opportunities."

The program's goals include: 1) Explore with students the interdisciplinary perspectives on, and approaches to, homeland security 2) Have students collaborate with community stakeholders to create prevention, deterrence, preemption, defense, and response strategies and systems appropriate to local, regional, national, and international critical incidents and emergencies; 3) Facilitate technological and scientific research that focuses on the evolution of existing science and technology and/or the development of new science/and technology that contribute to homeland security; 4) Enhance students' understanding of the civil- and human-rights concerns generated by security needs; and 5) Facilitate the identification and delineation of ethical issues related to homeland security, among many similar objectives.

According to their website, Fisk is also the first institution to have a dedicated undergraduate data

science program at a HBCU as well as in the state of Tennessee. The program is designed to allow students to easily add a joint major within the 4-year degree program.

The program includes a Data Science Innovation Hub and industry partnerships. Fisk University offers students the ability to design their own major, and offers a Masters' Program in Social Justice which "is designed to prepare students interested in gaining practical tools, specialized skills, and policy knowledge to advocate effective strategies to maximize the potential for social justice and human rights. The Social Justice graduate program seeks to build competencies and skills to transform social inequalities among social structures (economic, political, gender, race, etc.) toward a more just society."

Florida A&M University (Historically Black College & University) – Appendix K

Florida A&M University (FAMU) has an Interdisciplinary Studies B.A./B.S. Degree Program with a wide range of concentrations, including health, science, global studies, communications and design, among others.

FAMU also has a College of Social Sciences, Arts and Humanities (CSSAH), a "multidisciplinary college" and whose programs "connect students to the world with an array of learning opportunities including research, internships, co-op, service learning, online instruction, and experiential scholarship." CSSAH offers a Master of Applied Social Studies in: Criminal Justice, Global Security and International Affairs, and Public Administration.

Huston-Tillotson University (Historically Black College & University) – Appendix L

Huston-Tillotson University has partnered with the University of Texas, Austin (a PIT-UN member) to use PIT-UN funding to create a new Social Justice Informatics Faculty Fellows Program. As such,

Huston-Tillotson might be well positioned to be a part of PIT-UN.

Jackson State University
(Historically Black College & University) – Appendix M

Jackson State University offers both a general and a Professional Interdisciplinary Study degree. The curriculum includes courses such as: digital computer principles, social institutions, social change, and human resource development.

Metropolitan College of New York
(Predominantly Black Institution & Hispanic Serving Institution) – Appendix N

Metropolitan College of NY received an NSF Award to evaluate, explore, and deepen critical thinking skills and ways-of-thinking through solving real-world problems in interdisciplinary learning situations.

Among the program’s goals are: 1) to improve science education, especially for students who may never major in a scientific field; 2) to connect science education reform to more robust and relevant general education programs; and 3) to stimulate informed civic engagement with scientific questions on the part of today’s students.

Morgan State University
(Historically Black College & University) – Appendix O

Morgan State University has a College of Interdisciplinary and Continuing Studies, which offers a variety of undergraduate and graduate degree programs in Global Perspectives and Practices; Society, Equity and Urbanism, Technology Services; Interdisciplinary Sciences; Engineering, Information and Computational Sciences, Journalism; and Mass Communication, among others.

Morgan State also houses a variety of Research Centers relevant to PIT and equity issues, such its Cybersecurity Assurance and Policy Center, Urban

Mobility and Equity Center, Rocketry Program, and Center for Health Disparities Research and Innovation.

Morehouse College
(Historically Black College & University) – Appendix P

Morehouse College is nationally renowned for its medical program and is also a leader in STEM Education. Morehouse also offers a strong program in communications with the intended outcome of helping students to: “Evaluate key theoretical approaches within the interdisciplinary field of communication,” and to “apply knowledge of human communication and social and cognitive processes across various contexts and from multiple perspectives, e.g., interpersonal, small group, organizational, intercultural, interracial, and media and mass communication.”

Courses include: Interracial Communication, African American Rhetoric, Intercultural Communication, and Communication and Social Justice. Lastly, Morehouse has a Division of Experiential Learning and Interdisciplinary Studies.

North Carolina Central University
(Historically Black College & University) – Appendix Q

North Carolina Central has an extensive number of degree programs in Interdisciplinary Studies and in Information Technology and has an award from NSF to fund its “Broadening Participation Research Project: Research for Social Justice – Broadening Participation through Data Science,” described as:

The aims of this research project are to increase the participation of minorities and women in STEM through data science. Data science affords students the ability to marry their skills in mathematics, statistics and computer science with their personal passions, be it in health disparities or linguistics. Data science can be used to attract students with such wide-

ranging interests, particularly those who want to use STEM as a means to address societal challenges and impact social policies.

**Texas A&M University, College Station
(Hispanic Serving Institution) – Appendix R**

Texas A&M College Station offers an Multi/Interdisciplinary Studies Major which offers a bachelors, masters and doctoral program in multi/interdisciplinary studies. Options include a specialization in cybersecurity, described as:

As society becomes more and more connected, and as smart systems continue to evolve, there is a clear need for engineers in all fields to develop a good understanding of cybersecurity principles. For example, a biomedical engineer needs to understand the cybersecurity implications of medical devices and the privacy of medical records, and a civil engineer needs to understand the cybersecurity implications of connected and smart communities.

**Texas State University
(Hispanic Serving Institution) – Appendix S**

Texas State University houses the LBJ Institute for STEM Education and Research whose mission is to “to increase the participation and success of diverse communities of educator and students.”

With more than \$20 million in funding from agencies such as NASA, NSF and the United States department of Education, we are able to provide summer engineering camps for children and youth, develop STEM education curricula and instructional methods for future teachers, offer extensive professional development for teachers and professors, and conduct scholarly research.

The Institute supports interdisciplinary activities including “faculty interdisciplinary and collaborative teaching, research and service activities, bringing together professionals from the sciences, technology, engineering, mathematics and education to share expertise and knowledge from their fields.” It seeks to “provide professional development to better prepare K–12 teachers

and university faculty in the crucial STEM areas of inquiry, active learning, project-based and problem-based learning, integrated technology and integrated subjects.” The Institute is also a partner in the STEM for All which is “a public/private initiative that combines a workforce research initiative with a well-integrated portfolio of STEM engagement and educator professional development opportunities for learners of all ages in the Texas 31st Congressional District.” According to the LBJ's website:

A robust technologically literate society is a prerequisite for the United States to meet its needs for future scientists and engineers.... STEM-for-All is committed to helping citizens of all ages think about themselves as science learners and perceive themselves as someone who knows about, uses, and sometimes contributes to science.”

Texas State University also offers a Minor in Sustainability Studies, an interdisciplinary STEM program that is described as:

Sustainability Studies examines the human dimensions of the environment and sustainability in an interdisciplinary context. The program goals include providing students with an opportunity to explore the connections between social and physical systems, developing skills consistent with critical analysis and interdisciplinary knowledge for students who seek careers in sustainability, and a mechanism for students to learn about sustainability and to apply that knowledge to real-world problems.

Required courses include: Environmental Ethics and Society and Environment. Electives include: Philosophy, Nonviolence, Sustainability and Social Change, and Technology and Society, described as:

The subject of this course is the relationship between technologies and social institutions. Topics covered may include but are not limited to theories of sociotechnical change, diffusion, social constructivism, modernity and rationalism, and case studies of transformative technologies such as the clock, the car, and the birth control pill.

Texas State also has an interdisciplinary minor in Value Studies which “allows a student with special interests in value theory to pursue a course of study, which culminates in an independent research project in value studies. This project may be a study of a theoretical issue in value studies or something of an applied nature; students may affiliate with people in various work environments or service-learning settings to identify value conflicts and suggest resolutions.” The university also offers a B.S. in Digital Media Innovation with courses that explore: “concepts relevant to the digital age. Topics may include digital media history, ethics, law and will address online privacy, security, crime, identity, and censorship.”

Texas Women’s University
(Hispanic Serving Institution) – Appendix T

Texas Women’s University served as the host institution for an NSF award and Southwestern collaborative to develop a transdisciplinary certificate program titled: Science, Society and Sustainability and create two additional courses to support the certificate: Conversations in Community Sustainability and Building Sustainable Communities. In addition:

In 2017, the Department of Chemistry and Biochemistry was recognized by the Association of American Colleges and Universities (AAC&U) as a model department for incorporating of civic engagement and social responsibility into our degree programs. Of the 23 departments highlighted in their journal peerReview, ours was the only hard science department so recognized.

University of Baltimore
(Predominantly Black Institution) – Appendix U

The University of Baltimore offers a degree in Community Studies and Civic Engagement, which includes a course called: Community Organizations in a Digital World, which:

Examines digital and online efforts of community organizations to build community leadership and civic engagement. Explores the ways in which

information technologies have transformed and are transforming community organizations and how these technologies affect a range of social, political, and economic issues from individual to organizational and societal levels. Focuses on how technological applications may provide more effective and efficient pathways for community organizations to communicate with their stakeholders and to reach their strategic goals, which include the use of social media.

University of Central Florida
(Hispanic Serving Institution) – Appendix V

The University of Central Florida offers a degree in Interdisciplinary Studies which offers tracks in Diversity Studies and Diversity Studies Leadership.

The degree's interdisciplinary nature provides students with tools that can be applied across a spectrum of science, social behavior, and humanities, while foregrounding the importance of analyses with a focus on diversity and inclusion in such categories as race, ethnicity, gender, sexuality, religion, and ability. Students pursuing a career in social justice or advocacy work, involvement in international nonprofit organizations or diverse research and journalistic careers, as well as those seeking preparation for graduate study in related areas will enjoy the flexibility of this program.

University of Minnesota-Twin Cities
(Asian American and Native American and Pacific Islander Serving Institution) –Appendix W

The University of Minnesota-Twin Cities houses the Hubert Humphrey School of Public Affairs which has several Research Centers related to PIT including: 1) The Center for Integrative Leadership: “The Center for Integrative Leadership at the University of Minnesota seeks to catalyze, support and inform collaborative action to address significant and solvable societal challenges. We represent the commitment of the University's policy, business, public health, education, and law schools to shared leadership for public good.” 2) Center for Science, Technology and Social Policy: “The Center for Science, Technology, and Environmental Policy fosters interdisciplinary and community-engaged

research on human well-being, environmental sustainability, and social justice in a complex and diverse world.” 3) The Future Services Institute: “The Future Services Institute's mission is to advance human services into the 21st century. We believe in creating and nurturing excellence in leadership and management in various ways: through innovation, leadership development, and evaluation and research.”

**University of New Mexico
(Hispanic Serving Institution) – Appendix X**

University of New Mexico has a special college called University College.

University College's mission is to provide collaborative opportunities for integrative learning that foster personal, academic and professional excellence. University College does this by delivering academically rich undergraduate programs that cross departmental and college boundaries. University College supports incoming students and provides an administrative structure for important interdisciplinary programs.

One program they offer is in Liberal Arts & Integrative Studies (LAIS):

The Liberal Arts & Integrative Studies program is ideal for students with academic and career aspirations that require study across multiple academic subjects. Since each student has the responsibility for the quality of his or her education, the successful LAIS student will be one who can develop a challenging plan of study and stick to it.... Historically, this program has attracted many students who feel restricted by the specialized nature of traditional degree programs and want to combine two, three or more academic disciplines. Other students, particularly those returning to the university after years away, or those with full-time jobs, choose this degree because it has more flexibility to combine courses into themed concentrations. It is self-designed by each student to meet very specific academic or career goals.

**The University of Texas at San Antonio
(Hispanic Serving Institution) – Appendix Y**

The University of Texas at San Antonio (UTSA) offers a B.A. in Communications which is described as:

In accordance with the University's mission to contribute to the technological, economic and cultural development of the city and region,' the curriculum emphasizes communication practices in a multicultural and multiethnic metropolitan setting. A specific goal of the program is to train minority students for professional opportunities in communication. The objective is a degree program of high quality which serves the professional aspirations of UTSA students as well as the economic needs of San Antonio and South Texas.

UTSA also offers a Concentration in Health Communication, which:

offers students the opportunity to gain specialized knowledge about the ways that individuals, organizations, and societies communicate about health. Topics in this concentration touch on a multiple of areas from provider-patient interaction to the role of media in health communication. Specifically, the course curriculum includes a survey of the field of health communication, and courses about global health communications, health communication campaigns, interpersonal health communication and the practice of health communication.

APPENDIX A: INTERVIEW QUESTIONS FOR PIT-UN MSI MEMBERS

- How would you define PIT and why is it important? Probe: What are the key elements that distinguish PIT from other areas of study and work? What do you think are the key questions that PIT is trying to address? What are some of the gaps that PIT is trying to fill both in academia and in the public sectors?
- Even though it's interdisciplinary, would you say that PIT has its own methodology? Why/Why not? Probe: PIT includes the study of the history of technology, the impact of technology and the regulation of technology all coming together? How do we put those questions under one umbrella? How do we then translate our understanding of the impact of technology in terms of public policy goals and endeavors?
- Can you tell me a little bit about how your institution has adopted PIT? Probe: How does PIT fit into your larger institutional goals? Is there a natural fit there? Does the Institutional leadership support PIT? What specific disciplines/departments are most active in PIT? How did they get involved with PIT? What have you accomplished in terms of revised or new courses, opportunities for team-teaching and other cross-disciplinary opportunities, student internships, project-based learning, or grant-funded research/programming?
- What has been the extent of faculty interest in PIT, and what have been some of the challenges in getting faculty engaged? Probe: For example, some faculty might not know what PIT is, or why it is different from traditional IT programs. They might be used to working in disciplinary silos and aren't comfortable with interdisciplinary frameworks. They might not feel prepared to teach PIT courses and thus need more professional development and/or resources.
- Given that you are an MSI, in what ways does PIT look different at your institution than what you've seen at PWIs? Probe: How can PIT address pressing issues around DEI and marginalized communities, especially in the face of digital inequality? What are some examples of how PIT has made a difference in teaching and learning around issues such as income inequality, poverty, homelessness, educational equity, legal ethics, etc. How does PIT address intersections of identity, such as race, class, gender, and sexuality? How do those intersections play out in the technical landscape?
- How, if at all, does PIT seek to address issues of representation, specifically the lack of diversity in the technology sector? How does PIT challenge the idea that technological tools are neutral and are apolitical? Probe: In what ways does PIT raise questions of who is shaping and creating the tools that will impact social justice and social change? Who is "in the room," and who is missing from these conversations?
- What have been some of the most significant challenges at your institution to attracting students to PIT? Probe: unsure about what PIT is; unease with interdisciplinary structure of PIT and the transfer of credits in their own discipline; perceived lack of high profile and well-paying jobs in the field; don't know other students who are engaged in PIT?
- What have been some of the ways that your institution has used PIT to help students take what they are learning in the classroom and apply it in authentic practice-based settings? Probe: For example,

do your PIT courses include faculty engaged and supervised internships enabling students to merge and perhaps push back on some of the things that they’re experiencing out in the world?

- What kinds of investments do you think we would need to establish PIT as a field, both within academic and in the field of practice? Probe: How can philanthropy further the development and innovation of PIT? How can you create opportunities for cross institutional collaboration, as well as institution-wide “learning community” around PIT?
- How would you “tell the story” of PIT to institutions of higher education that might be interested in adopting it, especially to other MSIs?
- Based on your own institutional experience, what do you think are the most important elements to look for when deciding whether an MSIs is well positioned and primed to adopt PIT? Probe: What would you say are the “building blocks” for the field to grow? What kinds of “capacity building” do you think is most necessary before PIT can have a larger impact?

APPENDIX B: SURVEY QUESTIONS FOR PIT-UN MSI MEMBERS

To what extent were the following challenges in adopting, sustaining, and advancing PIT at your institution:

Defining the field for faculty who didn’t know what it was:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Defining the field for students who did not know what it was:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Making the case that PIT was relevant across all disciplines – including the humanities and social sciences – not just in technology-centered departments and programs:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

The fact that PIT is interdisciplinary and not a degree program that students can chose to major in:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Difficulty for students to transfer course credits from departments outside of their major, required courses, and approved electives:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Getting buy-in to PIT from institutional leaders, such as department chairs, deans, provosts, and presidents:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Faculty who did not know how to teach PIT and were thus hesitant to include it in their courses:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Lack of professional development opportunities for faculty to learn more about PIT:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Faculty hesitation to collaborate and/or co-teach with faculty in different disciplines to create new interdisciplinary PIT-focused courses, programs, and opportunities:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Faculty who feared that PIT was not esteemed and thus would interfere with their tenure, research, and publishing plans:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Lack of accessible/open-sourced resources for integrating PIT into courses:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Lack of internal resources and funding to support PIT innovation:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Lack of external resources and funding to support PIT innovation:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Creating opportunities for students to combine an academic focus on PIT with community-based internships and/or service opportunities:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Making the case that students with PIT backgrounds could get viable, well-paid jobs upon graduation:

No challenge			Somewhat challenge					Significant challenge	
1	2	3	4	5	6	7	8	9	10

Short Answer Questions

- How would you define PIT?
- In what specific ways does PIT address core issues of justice, equity, diversity, and inclusion?
- How did you first become aware of PIT-UN and why did you think PIT-UN membership would be a good fit for your institution?
- What has been the biggest benefits for your institution in being part of PIT-UN?
- Do you think that being a Minority Serving Institution (MSI) has an impact on how your institution has approached and adopted PIT? Please explain:
- As you think about those aspects of adopting PIT that were most challenging, how did you address them and/or how are you in the process of addressing them?
- Is there anything else you would like to add regarding PIT in general, PIT at your institution, PIT at an MSI, or membership in PIT-UN?

APPENDIX C: CALIFORNIA STATE UNIVERSITY, FRESNO (Fresno State)

Indicator	Strong Evidence	Fresno State
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence Fresno State has a robust STEM program, with degrees in all of the traditional fields. It also offers a Liberal Studies STEM Degree Program with courses such as: Culturally Sustaining Pedagogy in STEM, and Engineering Literacy and Pedagogy.</p> <p>The Department of Media, Communication and Journalism offers a number of PIT aligned courses, such as: Mass Communication and Society, Asian American Newspapers and Mass Media, News and Media Literacy, Public Affairs Reporting.</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence Fresno State’s website includes a number of profiles of prominent and award-winning faculty in STEM. In addition to the traditional STEM disciplines, Fresno State has faculty doing interdisciplinary and interdepartmental work around PIT aligned topics.</p> <p>For example, Fresno State is currently hiring for an American Indian Studies Environmental and Social Justice Professor. They are looking for someone with expertise in: “traditional ecological knowledge (TEK), environmental stewardship, cultural burning and maintenance of water resources, Indigenous lifeways, hunting, fishing, medicinal and agricultural practices, cultural resources and sacred site preservation, impacts of environmental degradation on tribal communities and lands, and direct political action.”</p>

Indicator	Strong Evidence	Fresno State
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interests</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence Several departments in the college have a public interest/ social justice slant, such as the Sociology Department which is described as following: “The program is grounded in the discipline of sociology from a human rights perspective emphasizing social, economic, and environmental justice. We seek to train students to use sociological theories and methods to engage in debates about public policy, to organize communities for political activism, to understand the relationship between oppression and resistance, and to operate nonprofit community benefit organizations seeking social change.”</p> <p>Fresno State also offers a minor in Philanthropy and Community-Based Leadership described as: “The Philanthropic and Community-based Leadership Minor prepares students for career paths ranging from grassroots organizing and work in nonprofit, community benefit and non-governmental organizations to employment in government agencies, legislative offices, ‘think tanks,’ advocacy organizations, or private consulting. Through an emphasis on service-learning pedagogy, the minor is designed to provide an interdisciplinary perspective to the study of diverse communities and issues facing these communities. Critical and creative analytical skills are honed in real-world settings to prepare individuals to be able to work towards viable solutions to social problems. The minor degree emphasizes a social justice approach and offers students hands-on experience in exercising critical sociological consciousness in venues concerned with pressing local, national, and international issues. Such knowledge and skills are essential for students to become leaders who are able to transform our region and society as a whole.”</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence The Sociology Department emphasizes “Beyond the Classroom Learning,” in which: “Throughout the curriculum students have the opportunity to be involved in the process of ‘learning by doing’ that goes beyond the textbook and the classroom. From internships at local nonprofit and public agencies to alternative spring breaks and service-learning courses to applied research projects, students are expected to engage with everyday life through applying sociological theories and methods to their own lives and those who live in Fresno and the San Joaquin Valley.”</p>

Indicator	Strong Evidence	Fresno State
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence</p> <p>Fresno State houses an Institute for Media and Public Trust, which includes a variety of programs and research reports on issues of informed citizenry, media literacy, accurate reporting and information access, and supports a Students of Color Journalism Training Program.</p>
Indicator	Developing	Fresno State
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of justice, equity, diversity, and inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primarily an elective and is not required for all students in all majors.</p>	<p>Developing</p> <p>While there is no one required DEI courses, a website scan reveals many courses with a DEI/public interest focus such as Peace Building, Community Health Cultural Diversity and Oppression; Community Service in Women’s Studies, among many others.</p> <p>In addition, The Department of Philosophy offers a Certificate in Social Justice and Social Change, described as: “This interdisciplinary certificate prepares students to engage in critically thought out, intellectually grounded, and tolerant social justice actions. Students who complete the certificate requirements will be equipped with skills for positively directed, theoretically cognizant, and thoroughly respectful social activity within social justice arenas of life. The Social Justice and Social Change Certificate would be useful in many of the diverse fields where students wish to showcase their commitment to and engagement with social justice, including, but not limited to: social work, community and public service, non-profit and charity work, activism, legal careers, business, professional ethics organizations (including corporate and medical ethics boards), environmental science and engineering, as well as further graduate study in the fields of philosophy, sociology, religious studies, political science, and other fields within the arts, humanities, social sciences, and social work.”</p>

Indicator	Strong Evidence	Fresno State
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>Through the FLOCK program, funded by NSF, Fresno State provides a forum in which “Faculty will also develop expertise in teaching methods that help improve student learning and increase the number of STEM majors, particularly underrepresented minority students, and their graduation rates. These grant activities are aimed at helping to create an enhanced culture of faculty leadership, collaborative curriculum design and accountability for student success.”</p> <p>Fresno State received NSF funding for faculty in the Lyles College of Engineering to “support the Alliances for Graduate Education and the Professoriate program to improve the pathway and success of underrepresented minority graduate students, postdoctoral fellows and faculty who want to teach or conduct research in science, technology, engineering and mathematics (STEM) fields.</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/ or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center, or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence</p> <p>Fresno State offers a Masters’ Degree Program in Interdisciplinary Studies which “is awarded for programs that include breadth of scientific knowledge as well as attainment of specific professional competencies in scientific research methodologies and data-driven analysis. MS degrees are appropriate for those who wish to engage in professional science-related careers that cross over several traditional specializations. The MA in Interdisciplinary Studies is awarded in all fields, particularly those that include the arts, letters, and humanities.”</p>

Indicator	Strong Evidence	Fresno State
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence</p> <p>Fresno State has many articulation agreements with community colleges, such as that with Fresno City College and Jordan College of Agricultural Sciences and Technology. The website also includes a lot of information for students interested in transferring to the university.</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence</p> <p>When (recently departed) President Castro was hired he noted that: “One of the initiatives I proposed when I started this past August is well on its way to implementation. Our Fresno State tablet program — DISCOVERe — will launch with 40 faculty fellows incorporating tablets in the classroom to teach 1,200 students from freshman to graduate level. It’s an aggressive initiative to break down the digital divide and rethink educating tomorrow’s leaders, and I’m proud that Fresno State is ahead of the curve.”</p>

Indicator	Strong Evidence	Fresno State
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence</p> <p>The Fresno State Center for Faculty Excellence offers numerous digital badges, including in “Equity Minded Teaching,” “Inclusive Teaching and Learning,” “Resilient Teaching,” and “JEDI.”</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel, and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence</p> <p>The National Science Foundation awarded a \$1.5 million grant to Fresno State’s College of Science and Mathematics to enhance the quality of teaching in introductory science, technology, engineering and mathematics (STEM) courses. Awarded under the National Science Foundation’s “Widening Implementation & Demonstration Evidence-Based Reforms” (WIDER) program, the grant will establish four faculty learning communities called Faculty Learning for Outcomes and Knowledge (FLOCKS).</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence</p> <p>Fresno State offers a broad array of student programs and clubs with a social justice foci. These include the Emerging Leaders Retreat, The Leadership Academy and Graduate Student Leadership Institute, which includes a partner programs called Lens of Leadership which is described as “a monthly leadership panel, which examines how our intersecting identities influences our approach to leadership.”</p>

Indicator	Strong Evidence	Fresno State
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>Fresno State hosts the California Mini Corp Program which “provides undergraduate Liberal Studies students the opportunity to work as tutors in public school sites throughout Fresno County. The Mini-Corps Tutors work directly with certificated classroom teachers, and they provide direct instructional services to migrant students.”</p> <p>Fresno State also houses The Science and Mathematics Center (SMEC) which provides outreach events for K-12 students from surrounding school districts.</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has many such opportunities, and has robust and active partnerships with employers, non-profits, funders, or government agencies who support these programs and whose mission is aligned with PIT.</p>	<p>Strong Evidence</p> <p>Fresno State offers a certificate program in Interdisciplinary Applied Behavior Analysis which is designed for “professionals working in the human services arena, especially among those working with developmentally disabled children and adults, to become Board Certified Behavior Analysts (BCBA).”</p> <p>Though it is not clear what they offer students, Fresno has digital badges for Faculty through the Fresno State Center for Faculty Excellence.</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear¹</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>

1. Please note that “unclear” means that we were not able to make a determination through a thorough website review and would need to speak with someone at the institution.

Indicator	Strong Evidence	Fresno State
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>	<p>Strong Evidence</p>

APPENDIX D: CALIFORNIA STATE UNIVERSITY, NORTHRIDGE (CSUN)

Indicator	Strong Evidence	CSUN
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence CSUN has a robust STEM program which was one of only 20 institutions of higher education across the country selected to take part in a new initiative designed to increase diversity in the fields of science, technology, engineering and mathematics (STEM). The initiative, Teaching to Increase Diversity and Equity in STEM (TIDES), was “announced by the Association of American Colleges and Universities (AAC&U) as a way of developing models for broad institutional change for the advancement of evidence-based and culturally competent teaching in STEM fields, particularly in the computer and information sciences.” Of the 20 institutions, CSUN was one of 14 selected as a “full awardee,” meaning it can receive up to \$300,000 for faculty and curriculum development over the next three years.</p> <p>In addition, CSUN offers faculty the opportunity to participate in Transforming STEM Teaching, described as: “Would you like your students to be more engaged in your STEM courses? Are you thinking about equity and how you can facilitate inclusivity in your course? Faculty Development invites you to join a group of STEM faculty to explore strategies to enrich your courses and promote student engagement to improve learning. This semester-long learning community supports faculty (tenure-track and lecturers), especially those teaching large lectures to enhance student learning gains. Faculty who complete this program will earn a certificate of completion backed with the reputation UC Berkeley's Lawrence Hall of Science that created this evidence-based program especially designed for STEM faculty as a result of NSF funding. All teaching techniques discussed in this program use STEM examples for clear application with our unique CSUN students. For those interested in engaging in our Graduation Initiative and seeking greater student success, this is an excellent opportunity for faculty to take action.”</p>

Indicator	Strong Evidence	CSUN
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence</p> <p>Professor Mauro Carassai specializes in digital humanities.</p> <p>Eric Schaeffer Center for STEM Education is led by Houssam Toutanji who received the NSF CAREER Award.</p> <p>Additionally, CSUN edits the Journal on Technology and Persons with Disabilities.</p>
Indicator	Developing	CSUN
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interests</p>	<p>A review of course descriptions and learning objectives suggests a focus on issues of DEI, social justice, and/or public interest, but it is often implied rather than explicit and/or concentrated in certain disciplines.</p>	<p>Developing</p> <p>Focus on DEI and public, community-based learning and public interest work is apparent throughout the entire website and is formalized in the institution’s strategic plan. Institution offers degrees in: “Civic and Community Engagement” and Public Sector Management” and an AA-T transfer program in “Social Justice Studies.”</p>

Indicator	Strong Evidence	CSUN
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence CSUN offers a Master of Arts in Diverse Community Development Leadership: “Students can tackle areas such as community services, economic challenges, the environment, housing needs, real estate development, transportation and workforce development. By getting the perspective of diverse community stakeholders, positive change can occur. [Additionally] because faculty members come from several CSUN colleges, students get a range of perspectives and a multi-disciplinary education. Professors are from the Colleges of Humanities, Social and Behavioral Sciences, and David Nazarian College of Business and Economics. “</p> <p>CSUN selected by Carnegie Foundation to receive community engagement classification: “The six-year designation indicates institutional commitment to community engagement. CSUN has a culture that fosters and develops the dedication of our students, faculty and staff to meaningful partnerships between the university and the community,” said Mary Beth Walker, CSUN provost and vice president for academic affairs. The Carnegie Community Engagement designated institutions do exceptional work to advance their public purpose through community engagement that enriches teaching and research while also benefiting the broader community.”</p> <p>CSUN’s Civic and Community Engagement Program is "designed for students who wish to apply what they learn at CSUN toward making positive changes in their communities and the world. The Minor provides skills for students to successfully integrate their academic and professional interests with their desire to create healthy, humane, successful, and sustainable communities. Students will combine their CSUN coursework and collaborations with community partners to become informed and active members and leaders in society.”</p> <p>In addition to these programs, CSUN also offers a Student Scholar Program in which students can elevate their leadership skills and serve as student leaders through community-based learning, and Academic Internships where students have the opportunity to earn credit while gaining valuable real world experience.</p>

Indicator	Strong Evidence	CSUN
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence</p> <p>Part of CSUN Strategic Plan is to: “Create, design, and build sustainable spaces to support innovative curriculum, instruction, research, and scholarly activities.” For instance, The Autonomy Research Center for STEAHM (ARCS) which “is a NASA-launched university center of excellence, forging research collaborations between physical, social, and behavioral science (S); technology and engineering (T); entrepreneurship and business (E); arts (A); humanities (H); and mathematics (M). Our mission is to combine transdisciplinary, university-wide knowledge and talent from faculty, students, and NASA scientists to conduct convergence research and collaboration using increasingly autonomous systems (IA).”</p>
Indicator	No Evidence	CSUN
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of justice, equity, diversity, and inclusion (JEDI) more generally.</p>	<p>No such class in existence.</p>	<p>No evidence</p> <p>No evidence of a required course, however, a commitment to JEDI is part of their strategic plan:</p> <p>“We seek strategic investments that advance our mission, JEDI core values, and institutional capacity by transforming institutional structures, processes, systems, virtual and physical spaces, and investing in the diverse talent we will need to realize a more equitable and just future. Realizing our future requires generating resources and leveraging cross-divisional support from Administration and Finance, Information Technology, and University Relations and Advancement to advance sustainability and develop capital facilities and infrastructure supporting inclusive teaching and learning approaches to student success.” The school also has a strategic commitment to: “Apply an equity lens to policies, practices, and programs to investigate systemic inequities, using evidence to ideate and innovate equity-centered solutions.”</p>

Indicator	Strong Evidence	CSUN
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>CSUN offers a professional development program for faculty called Co-teaching in the Classroom: A Winning Combination wherein: “The challenge is that teachers receive very little training in how to work together to educate students successfully (Murawski, 2010). In addition, very few teacher candidates are able to see co-teaching in action during their pre-service program. This project focuses on the impact of co-teaching in higher education and what needs to be done in order to ensure quality, research-based, collaborative instruction in the shared university classroom. Researchers on this project are working to identify whether co-teaching between professor's results in improved student outcomes in a variety of areas, as well as improved outcomes for faculty.”</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/ or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center, or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence</p> <p>CSUN has an Interdisciplinary Studies Major for students interested in a degree that "approaches complex problems that are best addressed by integrating several academic schools of thought, specialized knowledge from multiple research areas, or methods and perspectives from different disciplinary fields. With a selection of courses drawn from a variety of departments focusing on quantitative, qualitative and cultural approaches, the degree prepares students to produce college-level cross-disciplinary work and grants them the freedom to design a major around their intellectual interests and professional goals.”</p> <p>CSUN also offers a Bachelor of Arts in Public Sector Management where "courses are designed to integrate analytical and conceptual knowledge of public sector management with pragmatic application, culminating in an internship or field study. Sample courses include: Communication and Technology described as: “The study of the impact of new communication technologies on interpersonal communication patterns. Emphasis is placed on implementation of technology in organizational settings.”</p>

Indicator	Strong Evidence	CSUN
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence CSUN has a Transfer Articulation Agreements: AA-T Degree in Social Justice Studies with concentrations in social welfare and social justice; inequity and diversity; social movements and political sociology.</p> <p>CSUN is part of the California Promise Program, wherein: “Students admitted to CSUN with a verified Associate Degree for Transfer (ADT) are invited to participate in the California Promise Program and take the Two-Year Pledge to complete their bachelor’s degree in two more college years at a rate of 30 semester units per year including summer and winter terms.”</p> <p>CSUN has a summer bridge program for students interested in majoring in STEM.</p> <p>CSUN also received a grant from the U.S. Dept. of Education part of a “collaborative effort by California State University, Northridge and local community colleges to increase the number of underrepresented students who study computer science and engineering.” The main project, AIMS2 – Attract, Inspire, Mentor and Support Students – has faculty at CSUN and the community colleges working together to ensure students, and now including incoming freshmen, have the support they need to graduate in a timely fashion.</p>

Indicator	Strong Evidence	CSUN
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence CSUN recently completed a systematic review and planning resulting in the: Road Map to The Future (Presidential Leadership Commitment): “Charged by President Beck to build consensus around the vision of an equitable and just future for CSUN, the Road Map to the Future Steering Committee undertook a three-phase, inclusive process led by Provost Walker to determine campus priorities and frame big ideas. Comprised of students, faculty, staff, and administrators, the Steering Committee was integral to the effort, and CSUN is grateful for the tireless dedication of these individuals.” The plan includes a commitment to: “Apply an equity lens to policies, practices, and programs to investigate systemic inequities, using evidence to ideate and innovate equity-centered solutions.”</p> <p>CSUN selected by Carnegie Foundation to receive community engagement classification: “The six-year designation indicates institutional commitment to community engagement. CSUN has a culture that fosters and develops the dedication of our students, faculty and staff to meaningful partnerships between the university and the community,” said Mary Beth Walker, CSUN provost and vice president for academic affairs. “They are true partnerships characterized by collaboration, mutuality and reciprocal learning. Faculty see first-hand the impact that this engagement has on our students, and faculty and students benefit from the knowledge and expertise of our community partners.” The Carnegie Community Engagement designated institutions “do exceptional work to advance their public purpose through community engagement that enriches teaching and research while also benefiting the broader community.”</p> <p>In addition, CSUN has a "Commitment to Issues of Equity and Community Engagement From Office of Provost and Vice President” that focuses on disrupting systemic inequities: “We seek to advance structural equity and hold ourselves accountable for defining, examining and realizing changes needed to demonstrate equity in all aspects of our CSUN community. We seek to act with urgency to develop a collective understanding of and commitment to our core JEDI values and build an equity infrastructure that aligns institutional initiatives with our values.”</p>

Indicator	Strong Evidence	CSUN
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence</p> <p>CSUN has many examples of a focus on Community Engaged Research including: “At CSUN, research doesn’t just happen in labs on campus. We’re out in our communities, working together to answer questions, evaluate solutions and improve lives. We are partnering with innovative public and private sector organizations— from local nonprofits to NASA. Learn more about community-engaged research at CSUN.”</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel, and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence</p> <p>CSUN has many faculty professional development opportunities. The website notes that “Faculty Development provides relevant and thought-provoking programming to support all faculty in their teaching, scholarship, service and leadership journeys. Programming and partnerships are informed by equity-mindedness, technology-enriched best practices and data-informed inquiry. The Faculty Development team seeks a supportive culture of shared power that engages with the well-being and success of both faculty and students. The team, inclusive of faculty and instructional designers, develops and implements programs for faculty success, such as New Faculty Foundations, Institutes for teaching and learning (e.g., eLearning, equity-minded teaching, syllabus redesign), short series (e.g., Transparent Assignments) or semester/year-long Faculty Learning Communities (FLCs) on various topics (e.g., STEM teaching, new faculty)...Other activities include hosting keynote speakers, workshops (either campuswide, college level or department tailored) and writing productivity communities for faculty to move forward on their scholarship. For those who cannot attend events, a Teaching Toolkit is replete with self-paced, evidence-based teaching practices, including CSUN faculty best practices.”</p>

Indicator	Strong Evidence	CSUN
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence</p> <p>CSUN has multiple clubs and student activities, including: Programs and Resources for Women and Girls Interested in Computer Science wherein: “CSUN students are at the forefront of new technological innovations and discovery. From designing systems and software, to inventing new solutions, to bridging the technology gaps in education and communications, students are mentored and guided through their passion projects by expert faculty members. We have developed this resource guide to assist you in locating organizations, events, and clubs on CSUN’s campus and in the surrounding San Fernando Valley community in the hope that the network of support for women and girls in computer science will continue to grow.”</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>CSUN has many K-12 outreach and enrichment programs, such as: CSUN/DIY Girls After school computer science program for 5th-8th grade girls 10- week creative coding program with CSUN students in Computer Science and Engineering as instructors. CSUN/DIY Girls mission is “to increase girls understanding & success in technology & engineering.” Rally in the Valley is a program that “Attracts 48% of upper elementary school girls to an annual LEGO Education Robotics competition.”</p> <p>CSUN also offers Accelerated Coursework in Computer Science and Engineering for Student Success (ACCESS) Program where: “College of Engineering and Computer Science & 12 area high schools; Dezell Johnson, ACCESS Coordinator High school teachers take a summer workshop at CSUN and teach lab; High school students enroll in ACCESS course through CSU-wide Talented High School Program (THP)”</p>

Indicator	Developing	CSUN
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has experimented with at least one or two such programs and shows interest and commitment to supporting and developing these initiatives further, but they do not yet focus on PIT related topics.</p>	<p>Developing</p> <p>CSUN offers faculty development workshops on how to create digital badges through Canvas.</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>
Indicator	Strong Evidence	CSUN
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>	<p>Institution has a strong presence in academic conferences and journals, as well as the existence of blogs, op-eds, infographics, and research reports, wherein they seek to make faculty research, programs, and evaluations as public and accessible as possible. Institution has a section of their website devoted to public interest related courses, programs, scholarship, research, and community service.</p>	<p>Strong Evidence</p> <p>CSUN has a public commitment to: “Expand data functionality and analytics to explore multiple factors of intersectionality that impact equitable outcomes for students and employees.” In addition, CSUN has a commitment to: “Proactively review disaggregated data by race and ethnicity consistently to evaluate, assess, and leverage reporting systems to promote individual and institutional accountability for advancing JEDI values, institutional goals and priorities to improve student, faculty, and staff experiences, foster belonging, and achieve equity.”</p>

<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>		<p>Unclear</p>
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APPENDIX E: CALIFORNIA STATE UNIVERSITY, SACRAMENTO (Sacramento State)

Indicator	Developing	Sacramento State
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Robust STEM departments and degree programs, at least two or three of which are aligned with PIT.</p>	<p>Developing</p> <p>Sacramento State has a strong STEM program, although it offers more traditional majors (e.g., physics, engineering) and is less focused on issues of technology and data analytics.</p> <p>Some of its strengths, include: The STEM Scholars Lectures which are designed for the general public. “These lectures bring together area K-12 and community college students, faculty, and administrators; local business and industry leaders; CSUS students, faculty and alumni; and local community members to learn more about Sacramento State faculty research and scholarly efforts in STEM fields. The lectures cover a wide range of STEM topics from artificial intelligence to environmental sustainability issues.”</p> <p>Sacramento State also has a program called Women in STEM Education (WISE), an affinity group designed is to increase representation and promote the advancement of women faculty and staff in STEM.</p>
Indicator	Strong Evidence	Sacramento State
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence</p> <p>Sacramento State appears to have a number of full professors who are doing innovative work in STEM education. For example, STEM Faculty Member Kelly McDonald was the 2020 recipient of NSF’s Faculty Innovation and Leadership award.</p> <p>Faculty member Semarhy Quinones is the author of the article: “Be a Scientist. Increasing Visibility of Women in Science with Art.” Professors Ahyun, Papa and Stoner published "Disseminating STEM Teaching Practices: The Role of Centers for Teaching and Learning” described as: “Centers for Teaching and Learning (CTLs) are established to promote teaching excellence. While CTLs are effective at fostering teaching excellence in the main, they have provided little attention to addressing potentially unique needs of STEM faculty. This article proffers explanations as to why CTLs do not focus on promoting STEM pedagogies and suggests ways that CTLs can assist in the dissemination of STEM best teaching practices.”</p>

Indicator	Strong Evidence	Sacramento State
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interests</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence</p> <p>Sacramento State has one of the oldest and most renowned Ethnic Studies Department in the country which offers over 12 different B.A. programs and houses an Ethnic Studies Database and Research Guides, as well as opportunities for community service, a bridge program, and parental education initiatives.</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence</p> <p>CSU STEM VISTA (Volunteers in Service to America) members volunteer full-time for one year in science, technology, engineering, and math (STEM) departments, colleges, and institutes across the CSU campuses. The CSU STEM VISTA volunteers work to eliminate race, class, and gender disparities in the STEM undergraduate programs, and focus on increasing retention rates and completion rates of underserved communities.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence</p> <p>Collaborating with Sacramento State deans, faculty and staff, the College of Continuing Education (CCE) helped organize an interactive forum called Building the STEM Pipeline Summit: Partnerships for Innovation in the Sacramento Region. The summit “focused on goals set forth in the national report titled Preparing for the Perfect Storm produced from a meeting of business, education, government and civil society gathered at the National Academy of Engineering in September 2006. The report outlined four goals to call the nation to action, including: raise awareness among policy-makers, practitioners and the general public; strengthen the pipeline of technology and engineering talent; enhance technology and engineering workforce education through research; and develop partnerships to focus on resources.”</p>

Indicator	Developing	Sacramento State
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of justice, equity, diversity, and inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primarily an elective and is not required for all students in all majors.</p>	<p>Developing</p> <p>While Sacramento State does not have a required gateway course on JEDI, the college offers courses such as Social Justice in Interdisciplinary Perspective which “examines the nature and forms of social justice and injustice. Key philosophical and theoretical models and debates over the meaning of social justice, using historical and contemporary examples to highlight important concepts and controversies are addressed. Faculty from different departments within SSIS, and occasionally from other colleges, will address how their discipline understands and analyzes issues of social justice. Students will be encouraged to critically assess the assumptions of various perspectives on social justice, and to address the relationship of academe and social activism in achieving social justice.” Another such course is Science, Technology and Politics: “Social and political dimensions of science and technology. Examines how science and technology both shape politics and are shaped by politics. Considers the role of scientific advisors in government and society; dilemmas of expert authority and bias; relations between experts and non-experts; science and technology in popular culture; science and technology policy; implications of emerging technologies such as genetic engineering and the Internet for civil rights, moral values, and democracy.”</p>

Indicator	Strong Evidence	Sacramento State
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>In its new role as a STEM Pathways and Research Alliance, Sacramento State is focusing on contributing to the production of scholarly research in broadening participation in STEM. “This will be achieved through the creation of a research team made up of social science researchers, program evaluators and the Sacramento State CSU-LSAMP leadership team. Its formation will be the first step in creating a CSU center for broadening participation research in STEM, which will serve as a resource for education and social science researchers across the CSU. Ideally, Dean Hammersley says, Sac State eventually will become that research hub.”</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/ or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center, or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence</p> <p>The College of Social Sciences and Interdisciplinary Studies “provides a curriculum that examines human society in all aspects. Curriculum focuses on such topics as relationships among individuals and groups, the functioning of the political system and the economy, the nature and influence of culture, relationships among nations, and the relation of human society to the natural environment.”</p>

Indicator	Strong Evidence	Sacramento State
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence</p> <p>Sacramento State has articulation agreements with over seventy area institutions.</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence</p> <p>Sacramento State STEM has landed received a \$4 million grant from the National Science Foundation (NSF). The project is a continuation of the NSF-supported CSU-Louis Stokes Alliance for Minority Participation (CSU-LSAMP): “With matching funds from the CSU Chancellor’s Office, the grant total is \$8 million over five years...For the five-year project period, CSU-LSAMP will engage approximately 3,000 CSU STEM students annually in activities that include academic support, exposure to research, and professional development opportunities. It will continue to have a significant impact on increasing overall persistence and enrollment in STEM, as well as the number of STEM bachelor’s degrees awarded, for traditionally underrepresented minority students.” Of note: University President Robert S. Nelsen serves as the principal investigator.</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence</p> <p>Sacramento State’s Institute for Social Research focuses on community-engaged research which promotes the understanding of complex problems and global challenges that go beyond a single area of study, including research on contemporary global issues such as voting rights and an informed electorate... The Institute works closely with community partners to customize projects that meet their own organizational or community needs-- whether that is community listening sessions, technical support, program/policy evaluation, or a comprehensive research study.”</p>

Indicator	Strong Evidence	Sacramento State
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel, and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence</p> <p>Sacramento STEM-POWER "provides a multi-year, intersegmental and collaborative professional learning to 20 teacher preparation program faculty and 70 mentor teachers, ensuring inclusive, high-leverage STEM practices are the norm in Sacramento. STEM-POWER will create a coherent and aligned set of teaching practices for prospective, new, and veteran teachers (including mentor teachers), from Multiple Subject teacher preparation classes to TK-8th grade classrooms."</p> <p>Additionally, Sacramento State received a 1.5 million NSF grant to provide faculty development in STEM and equity issues: "Using online, hybrid, and face-to-face training formats, the project will provide customized professional learning programs to help STEM faculty improve their teaching. The training also will help increase faculty awareness of the roles played by diversity, intercultural competence and critical consciousness in students' development and persistence, including those who are underrepresented in STEM."</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University's TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence</p> <p>The Cyber Defense Club (CDC) at Sacramento State is designed to develop cyber defensive and offensive skills that are applicable with today's technology and standards. The club focuses on training students to work together as a team for cyber security competitions."</p> <p>The Full Circle Project supports incoming, first-year Asian Pacific Islander, Desi American students.</p>

Indicator	Strong Evidence	Sacramento State
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>“The STEM Preteaching Program is for students interested in pursuing a teaching credential and career as a middle or high school science, technology, engineering, or mathematics (STEM) teacher. The program provides students with 1) internship opportunities in local schools that meet the field requirements for the credential program, 2) advising for the Single Subject Matter Programs, and 3) an opportunity to network with other pre-teaching students and educational leaders through the STEAM Pre-teaching Club.”</p> <p>Additionally, “more than 350 middle school students participated in Expanding Your Horizons conference, an annual event sponsored by Sacramento State and the nonprofit Women of AT&T Sacramento chapter to encourage and empower young women to pursue education and careers in science, technology, engineering and mathematics (STEM). “Attendees were exposed to a variety of STEM careers through hands-on learning activities facilitated by Sacramento State faculty and students as well as industry professionals from companies such as SMUD, Intel and Bayer. Women continue to be underrepresented in STEM fields, said Expanding Your Horizons Project Director and Sacramento State alumna Yen Marshall. The conference is meant to increase girls’ interest in those areas by providing interactive learning experiences and opportunities to meet role models who are active in STEM.”</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has many such opportunities, and has robust and active partnerships with employers, non-profits, funders, or government agencies who support these programs and whose mission is aligned with PIT.</p>	<p>Strong Evidence</p> <p>While not a “registered” apprenticeship program, Sac State offers a Workforce Development Professional Apprenticeship Program: “The 17 graduates from the program’s first cohort earned a professional certificate that’s valued in the workforce industry, a promotion from a Workforce Development Professional II classification to a Workforce Development Professional III and a 5% raise.”</p>

Indicator	Strong Evidence	Sacramento State
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>	<p>Institution has numerous, ongoing, institutionally funded mentorship, post-doc and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.</p>	<p>Strong Evidence The Leading with Justice Speaker Series features "award-winning scholars and luminaries whose work on racial justice and community-based research has shape-shifted the ways we think about learning, teaching, and theories of social change. As we grapple with how to move systems towards inclusive practices, it's imperative that we are well-informed. This series was for everyone and expands well beyond the academy. Who we are shapes how we lead. In this milieu, justice is not merely a destination; it is the embodiment of the journey. May we lift as we climb." Speakers included Richard Milner, Gloria Ladson-Billings, Jose Medina and Pedro Noguera, among others.</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>		<p>Unclear</p>

APPENDIX F: COLLEGE OF THE MENOMINEE NATION (CMN)

Indicator	No Evidence	CMN
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Very small STEM departments, with limited-to-no degree program offerings in PIT aligned disciplines and fields.</p>	<p>No Evidence</p> <p>College of the Menominee Nation has very few STEM programs that align with PIT. They do have Associate degrees focused on Pre-Engineering and Pre-Engineering Technology. Both of these degree programs are two-year programs aimed at providing students with the first two years of a 4-year program in Engineering or Environmental, Electrical, Mechanical Engineering Technology.</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>		<p>Unclear</p>
Indicator	Developing	CMN
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interests</p>	<p>A review of course descriptions and learning objectives suggests a focus on issues of DEI, social justice, and/or public interest, but it is often implied rather than explicit and/or concentrated in certain disciplines.</p>	<p>Developing</p> <p>CMN features a B.A. in Public Administration. The Bachelor of Arts in Public Administration guides students into becoming conscientious citizens who can critically think, articulate, and convey professional and ethical virtues. Graduates of the program may find employment in city planning, nonprofit organizations, community action agencies, human services, tribes and tribal entities, criminal justice, health services and other public sector settings, in entry-level, mid-manager level, or research positions.</p> <p>Further, while CMN may not have explicitly focused on DEI and social justice, it is worth noting that they are big proponents of sustainability and environmentalism. The Sustainable Development Institute educates the community about sustainable ways of life, conducts research, creates understanding of sustainability and environmental issue impacting the campus community and beyond, and promotes, measures, and reports on sound and sustainable institutional practices.</p>

Indicator	Developing	CMN
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution has some courses that engage students in non-traditional and community-based learning, although they are not always well integrated into a defined set of learning goals.</p>	<p>Developing</p> <p>The institution incorporates lectures, hybrid/online sessions, laboratory sessions (if applicable), at least 45 hours of internship or practicum work a semester, and student teaching (if applicable) as part of their policies. While there are non-traditional elements that engage students in community-based learning, it is unclear which disciplines adopt these methods and to what degree.</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a broad variety of resources for innovation in STEM and PIT research and curriculum -- including some evidence of faculty interest and engagement -- but these resources are primarily short-term, grant-funded, are not widely accessible or utilized, and are not up to date.</p>	<p>Developing</p> <p>The institution certainly has resources in terms of computer access for students in addition to library resources such as digital collections and databases that could support research and curriculum in PIT.</p>
Indicator	No Evidence	CMN
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>No such class in existence.</p>	<p>No Evidence</p>

<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>No Evidence</p>	<p>CMN</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>The institution has no formal interdisciplinary degree programs or opportunities for students to take upper-level courses/electives outside of their disciplinary degree program/division.</p>	<p>No Evidence</p> <p>There are no formal interdisciplinary programs or opportunities that are outlined explicitly at the institution.</p>
<p>Indicator</p>	<p>Developing</p>	<p>CMN</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has informal but demonstrable relationships with local community colleges which serve as feeder schools (e.g., joint participation at recruitment events).</p>	<p>Developing</p> <p>CMN has articulation agreements with six local schools and internship programs.</p>

Indicator	Developing	CMN
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been at the helm of developing at least one innovative and/or interdisciplinary program and has expressed an intent to support future innovation including public interest work.</p>	<p>Developing Part of CNM's mission statement is: “Empowering people through lifelong learning to serve community needs. Providing outreach workshops and community service improving the quality of life.” CNM also houses the Programs and Applied Research for Sustained Communities through which it: partners with many organizations, agencies and communities for study initiatives and applied research on sustainability issues of local and global significance.”</p>
Indicator	Strong Evidence	CMN
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence Part of CMN's mission statement is: “Empowering people through lifelong learning to serve community needs. Providing outreach workshops and community service improving the quality of life.” CMN also houses the Programs and Applied Research for Sustained Communities through which it: partners with many organizations, agencies and communities for study initiatives and applied research on sustainability issues of local and global significance.”</p> <p>Additionally, “at the College of Menominee Nation (CMN), [the] vision and mission are built upon an American Indian value system. It is a system that includes ethical behavior and the recognition of diversity underpinned by Native American cultural understanding and perspective. [They] also recognize the broader world around us and the diversity of the communities we are part of and serve. As such, [their] focus is to prepare our students to be professionals who think critically, serve ethically, and respect the diversity and dignity of their fellow humans.”</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>		<p>Unclear</p>

Indicator	No Evidence	CMN
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Most institutional student-centered clubs or initiatives are traditional in nature and do not address either PIT-related or JEDI topics.</p>	<p>No Evidence</p> <p>Student-centered clubs and organizations are traditional in nature and feature classic disciplines such as a creative publication and student government.</p> <p>Of note, there is a student organization focused on “strategies for ecology education, diversity, and initiative.”</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>		<p>Unclear</p>
Indicator	No Evidence	CMN
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interests.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p> <p>Institution offers no evidence of any credential programs, digital badging, or RA programs.</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	Developing	CMN
Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.	Institution is in the process of developing mentorship, post-doc and faculty fellowship programs, but does not have yet a strong pool of funding or interest to support them, or a focus on PIT aligned topics.	<p>Developing</p> <p>CMN is hiring a Cultural Professional Development intern who will “research Menominee Indigenous knowledge through webinars, trainings, and written information and create learning opportunities for professionals to gain a deeper connection to indigenous knowledge. With the guidance of the mentor the intern will organize and plan events, webinars and/or showings of the researched knowledge to a group of professionals. The outcome of this internship will pave the way for future internships to build on and continue to grow upon.”</p>
Indicator	No Evidence	CMN
Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.	It is difficult to impossible to find institutional data for research, program evaluation and student achievement on an institution’s website.	<p>No Evidence</p> <p>There is no evidence of any institutional data on CMN’s website.</p>
School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.		<p>Unclear</p>

APPENDIX G: DELAWARE STATE UNIVERSITY

Indicator	Strong Evidence	Delaware State
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence</p> <p>Delaware State has a well-rounded STEM degree program, including a thriving College of Agriculture, Science and Technology which has an "integrated mission of teaching, research and outreach (extension) that provides and experiential education for students and research-based education programs for Delaware Residents." The College offers a B.S. in Information Technology which offers a balance of theoretical knowledge and practical, hands-on experience." Students in the program develop "critical thinking and communication skills, as well as appreciation for the social implications of computing. The graduate with the ability to devise creative IT solution that empower scientists, artists, inventors and organizations."</p> <p>Within this program, Delaware State offers a course in Public Information Technology described as: "introducing students to the uses and applications of advancing technology in public and non-profit administration as well as community engagement....It explores the ways that technology has been leveraged by the public and non-profit sectors for understanding and responding to challenges as well as empowering communities."</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence</p> <p>According to the website: "The Information Technology degree program maintains a very low student to faculty ratio (about 10 to 1), so students enjoy a lot of direct interaction with their professors. Faculty come from many academic backgrounds – not only computing but also areas such as applied physics and mathematics. Some of the current areas of research include networking with application to virtual machine migration; data mining with application in both information and homeland security; development of methods to use image-based biomarkers to assess breast cancer risks; digital compression with application in video transmission over low-bandwidth media; and specialized domains in scientific computing."</p>
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence</p> <p>Delaware State offers an M.A. in Justice Studies is designed to prepare students with a bachelor's degree and no professional experience for positions in government and non-government organizations, think tanks, criminal and juvenile justice systems, nonprofits, public service and/or future doctoral programs.</p>

Indicator	Strong Evidence	Delaware State
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interests</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence</p> <p>Delaware State offers and M.P.A. in Public Administration, described as: “What makes Delaware State University’s MPA unique is our focus on civic engagement and community empowerment. While our students develop the skills requisite for a Master of Public Administration, they will also develop their capacities for working alongside communities to empower individuals and communities as agents for their own development. The M.P.A. at Delaware State University allows students to advance their own careers while also advancing community interests. To this end, students will learn and practice the skills necessary to assess community contexts, engage with community members, identify and build leadership capacities among others, and serve as agents of community change. We do this through classroom instruction, community-based projects, and collaborative engagement with nonprofit and governmental organizations. Students have the opportunity to learn from academic faculty, experienced practitioners, each other, and the communities with which they will engage.”</p> <p>The school also has an HBCU-Up TEAL Program, funded by NSF, that “expands experiential learning to transform STEM Education and increase student retention. One aspect of the program is a “peer teaching and learning model to support advanced students in developing the academic and leadership skills that prepare them for graduate school and employment.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence</p> <p>As part of GOTOKNOWLEDGE On-Demand Training: “Delaware State University faculty and staff now have unlimited access to 100+ on-demand professional development trainings, as well as 150+ live webinars, through our newly acquired Go2Knowledge license! Go2Knowledge provides 24/7 online access to trainings that, upon completion, will provide you with a certificate of completion. Topics range from student success and institutional effectiveness, to teaching and learning.”</p>

Indicator	Strong Evidence	Delaware State
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>All students must take an interdisciplinary ethics or social justice course regardless of their major. The required course has clearly mapped learning objectives and standards around issues of systemic equity, opportunity and access, power and privilege, global cultures, and critical race theory.</p>	<p>Strong Evidence</p> <p>In addition to offering an M.A. in Justice Studies, Delaware State offers a B.A. in Liberal Studies which is “a student-centered academic degree that allows students to develop a program of study relevant to their personal and professional interests... Courses are from various academic departments throughout the University. Students learn to apply interdisciplinary knowledge and methods. Building upon the idea of a liberal education, students will engage in the examination of ‘big questions.’ The goal is to help students develop intellectual and practical skills that define critical thinkers and life-long learners. Students in this program can do a concentration in Media, Arts and Culture.”</p>
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>Delaware State sponsors a Sustaining Science Research Cultural Colloquium Series which brings faculty from within the sociology department and from other campuses who have given talks on a variety of important topics, such as criminal justice, inequality, race, class, gender, gentrification, and health disparities.</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence</p> <p>Delaware State offers a B.A. in Integrated Studies, an interdisciplinary program that “allows students to develop individualized programs of study through a broad-based education in the humanities, social sciences and natural sciences.”</p>

Indicator	Strong Evidence	Delaware State
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence</p> <p>The University has Articulation Agreements with Delaware County Technical College along with many other regionally accredited two-year institutions. The intent of the articulation agreement is to facilitate the smooth transfer of students enrolled in a degree program or associate degree graduates to the upper (junior) level of corresponding major programs at Delaware State University. They also have an Early Bird Program for juniors and seniors attending high school in the State of Delaware who wish to earn college credit while still attending high school during the Fall and/or Spring.</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence</p> <p>Based on other findings in this rubric, the evidence seems strong that the institution is committed to community-based and public interest programming at the leadership level and as part of its strategic plan.</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence</p> <p>See: GOTOKNOWLEDGE On-Demand Training and Sustaining Science Research Cultural Colloquium Series.</p>

Indicator	No Evidence	Delaware State
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Most institutional student-centered clubs or initiatives are traditional in nature and do not address either PIT-related or JEDI topics.</p>	<p>No Evidence</p> <p>Delaware State has a wide array of student organizations and clubs although none appear to be PIT related.</p>
Indicator	Strong Evidence	Delaware State
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>Delaware State University and Verizon created a partnership to provide STEM education to minority middle school boys in Delaware. The Verizon Innovative Learning Program, funded by a \$400,000 grant from Verizon, will provide mentorship and hands-on classes in coding, robotics, 3D design and entrepreneurship to dozens of minority middle school boys over the next two years. DSU students and faculty with backgrounds in computer science and entrepreneurship will serve as mentors to guide students through the program, which will begin with a summer program on the DSU campus and continue during the school year at DSU and at William Henry Middle School and Central Middle School from the Capital School District in Dover.</p>
Indicator	No Evidence	Delaware State
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>Delaware State</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>	<p>Strong Evidence</p>

APPENDIX H: DILLARD UNIVERSITY

Indicator	Developing	Dillard
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Robust STEM departments and degree programs, at least two or three of which are aligned with PIT.</p>	<p>Developing</p> <p>Dillard University is well known for its Science, Technology, Engineering and Math Department which even offers several dual degree programs with Boston University, Columbia University, Georgia Tech and Tulane. The STEM program offerings are fairly traditional, however. Students can get a B.A. in computer science, but it is focused on programming over social issues, and does not offer courses in information technology or data analytics.</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>		<p>Unclear</p> <p>From the website it looks as if there is robust faculty but it is not clear whether they have a national presence.</p>
Indicator	Strong Evidence	Dillard
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence</p> <p>Dillard offers several K-12 outreach and pipeline programs, including the Louisiana Alliance for Minority Participation (LAMP) program, one of 34 NSF Alliance programs nationwide. “Through mentoring and outreach the LAMP program seeks to increase the number of students of color receiving bachelors and graduate degrees in STEM.”</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence</p> <p>The Dillard University Deeper Student Learning (DU-DSL) program is “designed to improve Student Achievement by identifying and implementing instructional strategies, systems, and structures that improve postsecondary learning and retention, resulting in completion of a degree in a STEM field.”</p>

Indicator	Strong Evidence	Dillard
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence In addition to participating in the The National Academies town halls, and publishing the Journal for Racial Justice, Dillard University Minority Health and Health Equity Research Center, formerly known as the minority health and health equity research center, researches health and healthcare inequalities among races and people. In addition to conducting research, the Center informs the public and holds events that address health disparities in communities and houses the Ray Charles Program in African American Material Culture. "The aim of this program is not to view material culture as a singular idea, but rather tie material culture into all fields of academic study offered at Dillard University."</p>
<p>Institution offers an ethics or social justice course as a required/ gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>		<p>Unclear</p>
Indicator	Strong Evidence	Dillard
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other's research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence The National Science Foundation (NSF) awarded a five-year, \$1.25 million HBCU-UP grant to Dillard University. The grant is in support of Improving Minority Participation and Completion (IMPACT) through STEM initiative. It will help increase the number of students applying to the institution's STEM programs and retention rate. The HBCU-UP grant will also help Dillard achieve its academic goals, redesign STEM coursework and prepare Dillard students' for their future career paths and research experiences."</p>

<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>Dillard</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence</p> <p>Dillard has dual degree program agreements with close to 20 cooperating institutions. It also has an articulation agreements with a number of community colleges in North Carolina, and eight California Community Colleges.</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence</p> <p>Dillard’s President, Rochelle Ford was formerly the Dean of the School of Communications at both Howard University and Elon University who is quoted as saying: “The first thing to really understanding our mission is that we are a historically Black university that cultivates leaders who live ethically, think and communicate precisely, and act courageously to make the world a better place.”</p> <p>According to Vice President of Academic Affairs, Yolonda Page: “Know that Dillard is not simply an institution that provides knowledge; it also offers a means to develop your vision of the future and the tools to make that vision a reality. This is accomplished through the Quality Enhancement Plan (QEP) which offers learning communities, community and service learning, supplemental instruction and student engagement activities.”</p>

Indicator	Strong Evidence	Dillard
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence</p> <p>Dillard houses a Center for Racial Justice with the goals “to change the way that people of color and their communities are policed through education, community relationship building, civic engagement training, services, partnerships, and the utilization of relevant resources.” The Center also produces the Journal for Racial Justice.</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence</p> <p>Dillard participates in The National Academies town halls, which serve to: (1) promote the findings of the 2019 National Academies report, Minority Serving Institutions: America’s Underutilized Resource for Strengthening the STEM Workforce, (2) hear how MSIs are working to advance STEM workforce preparation, education, and research capacity, and (3) foster new discussions and solutions around these issues.</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>		<p>Unclear</p>

Indicator	Strong Evidence	Dillard
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>Dillard offers several K-12 outreach and pipeline programs, including the Women in Science, Technology, Engineering, and Math which is sponsored by IBM and includes a free summer program for middle school students called the Verizon Innovative Learning STEM Achievement Program. Dillard also offers a summer camp program for high schools girls interested in STEM careers: Quantum Computing.</p> <p>Additionally, the Verizon Innovative Learning STEM Achievers program – is an engaging, hands-on program developed to enrich learning through design thinking, 3D printing, augmented reality, social entrepreneurship and mentorship. This program creates a more diverse pipeline for future careers in science, technology, engineering and math (STEM) fields which is a free summer program for middle school students.</p>
Indicator	No Evidence	Dillard
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p> <p>No programs were found on the institution's website.</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>

<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>		<p>Unclear</p>
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APPENDIX I: DINÉ COLLEGE

Indicator	Developing	Diné
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Robust STEM departments and degree programs, at least two or three of which are aligned with PIT.</p>	<p>Developing</p> <p>Diné College’s School of Science, Technology, Engineering and Math (STEM) has a focus on the social and cultural implications of technology, as described on their website: “Diné College’s Associate of Science Degree in Mathematics is designed to provide students with the opportunity to acquire skills and knowledge that includes the ability to apply mathematical principles competently, think critically and creatively, understand abstract concepts, and use technology to ensure the well-being of the Diné People.”</p> <p>Few PIT aligned disciplines are offered outside of traditional STEM fields. It does seem like technology is woven into their STEM disciplines, such as Math and Pre-Engineering, to encourage abstract and creative thinking.</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM programs have a majority of junior and senior faculty members at the helm who have are active in new curriculum development and faculty leadership opportunities.</p>	<p>Developing</p> <p>There are diverse faculty in the school of STEM at Diné. Ranging from full professors to associate professors, there are a handful of professors who publish frequently and are national scholars, particularly when it comes to Navajo research. Full list here. Dr. Hakim secured a \$1 million grant, with external collaborators, to explore presence of microbes in Yellowstone.</p>
Indicator	No Evidence	Diné
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>Most courses descriptions and learning objectives do not include any evidence of readings or topics focused on DEI, social justice and/or public interest.</p>	<p>No Evidence</p> <p>Aside from general education core, which even still is very foundational and traditional in their offerings, there is little to no evidence of progressive learning objectives aligned with public interest or DEI.</p>

Indicator	No Evidence	Diné
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institutional degree programs offer a traditional approach to teaching and learning that is primarily centered on the university campus and uses textbooks rather than real life case studies.</p>	<p>No Evidence</p> <p>Programs in the STEM school claim to be innovative; however, courses outlined are traditional in nature and don't feature interactive and real-world learning such as internships, action research, and case study analysis.</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has no significant resources to support research and curriculum in STEM and PIT.</p>	<p>No Evidence</p> <p>Diné has various research institutes and three libraries dedicated to STEM and STEM research, but disciplines aren't necessarily PIT aligned. Institutes and Research Centers focus on Environmentalism and Navajo research rather than technology. Of note, the Diné Policy Institute does work focused on DEI and "identifies important social and political questions facing the Navajo people" and beyond.</p>
<p>Institution offers an ethics or social justice course as a required/ gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>No such class in existence.</p>	<p>No Evidence</p>

Indicator	Strong Evidence	Diné
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other's research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>Diné features the Teaching and Learning Resource Library & Innovation Hub for faculty which presents numerous resources and opportunities for collaboration. Faculty members are encouraged to form small “learning communities” and explore topics related to teaching and student success. Additionally, there are numerous grant opportunities and faculty fellowships that are designed for faculty development and to encourage collaboration.</p>
Indicator	Developing	Diné
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>The institution has some departments or programs which draw heavily on interdisciplinary methodology (such as gender studies or ethnic studies), and/or requires students to take a minimum number of electives outside of their major discipline.</p>	<p>Developing</p> <p>The college shows signs of creating and fostering interdisciplinary programming. In 2021, they began offering a Native American Studies Minor that “draws from interdisciplinary perspectives and compliments all Bachelor of Science, Bachelor of Arts, and Bachelor of Fine Arts programs at the college.”</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institutional leadership has been at the helm of developing at least one innovative and/or interdisciplinary program and has expressed an intent to support future innovation including public interest work.</p>	<p>Developing</p> <p>With the hiring of Andrea Christelle as the Vice-Provost of Research in May 2022, the Institutional leadership aims to develop interdisciplinary research and innovation. Of note, Dr. Christelle founded and director her previous universities Philosophy in the Public Interest program, meaning that she supports and could launch public interest work at Diné.</p>

<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>Diné</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has a “Teaching and Learning Center” or “Center for Community-based Research” where faculty can go for professional development, mentorship, and free resources. The onus is on the faculty to take advantage of these resources.</p>	<p>Strong Evidence</p> <p>Diné features the Teaching and Learning Resource Library & Innovation Hub for faculty which presents numerous resources and opportunities for inter-institutional research, travel, and conferences. Additionally, faculty members are encouraged to form small “learning communities” and explore topics related to teaching and student success.</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>		<p>Unclear</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>		<p>Unclear</p>

<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>Diné</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>	<p>Institution has numerous, ongoing, institutionally funded mentorship, post-doc and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.</p>	<p>Strong Evidence</p> <p>With the existence of the Faculty Innovation Hub mentioned earlier, there are numerous opportunities for mentorship and fellowship programs for visiting scholars and faculty to take advantage of.</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>	<p>Institution has a strong presence in academic conferences and journals, as well as the existence of blogs, op-eds, infographics, and research reports, wherein they seek to make faculty research, programs, and evaluations as public and accessible as possible. Institution has a section of their website devoted to public interest related courses, programs, scholarship, research, and community service.</p>	<p>Strong Evidence</p> <p>The institution frequently shares data from faculty research and partnerships.</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>		<p>Unclear</p>

APPENDIX J: FISK UNIVERSITY

Indicator	Strong Evidence	Fisk
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence</p> <p>Fisk University has a well-rounded and resourced STEM program with many degree options, including degree programs in homeland security and data science. The data science program is an innovation- centered, interdisciplinary program described as: “The Data Science program strives to bring innovation to passion through partner discipline requirements where students can choose a partner discipline including but not limited to Art, Biology, Chemistry, Physics, Psychology, Political Science or Business. This allows students to use the innovation of data science to explore their passion. The Fisk University Data Science program offers an innovative approach to Data Science preparing students for a diverse workforce.” The homeland security program is described as: “designed to promote the success of scholars and leaders within a global perspective. Students enrolling in the program will gain an understanding of the modern challenges of transnational security, terror groups, and cyber warfare through a mix of theoretical and applied learning opportunities. At the completion of the program, students will know how to identify and neutralize domestic and international threats and how to perform homeland security investigation.” The program’s core goals are to: 1) Explore with students the interdisciplinary perspectives on, and approaches to, homeland security; 2) Have students collaborate with community stakeholders to create prevention, deterrence, preemption, defense, and response strategies and systems appropriate to local, regional, national, and international critical incidents and emergencies; 3) Enhance students’ understanding of the civil- and human-rights concerns generated by security needs; and 4)Facilitate the identification and delineation of ethical issues related to homeland security.</p> <p>In addition, at the John Lewis Center for Social Justice, one of the core focus areas is: Technology, Data, and Information Justice in the 21st century requires taking the digital world seriously. The Center focuses on: “Access to technology, the harms of misinformation campaigns, data justice and storytelling, technological innovation, and its implication for closing the racial wealth gap.” The Center will serve as an incubator to bring together the greatest minds in the arts, social sciences, and STEM to collaboratively incubate initiatives for justice in the digital age.</p>

Indicator	Strong Evidence	Fisk
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence Sajid Hussain, Associate Professor of Computer Science, serves as the Interim Director of Sponsored Programs. He has published more than 70 refereed journal, conference, and workshop papers. His research is financially supported by several grants and contracts such as: a \$2.25 million NSF implementation award to promote quantitative and computing initiatives in STEM programs; a \$281,056 NSF/HBCU/TIP award infusing machine learning in Cognitive Psychology and Cognitive Bias Analysis.</p> <p>Physics Professor, Bryan Kent Wallace has been awarded a three-year \$750,000 Institutional Grant from the U.S. Department of Education’s Minority and Engineering Improvement Program (MSEIP). The Fisk program called, STEM-through Rocketry, Electronics, Engagement, and Coding (STEM-TREEC) is designed to increase retention of STEM students of color and women in Physics, Mathematics, Chemistry, and Computer Science and entice them to pursue careers in the various fields of Engineering.</p> <p>Steven Damo, Chair of the Department of Life and Physical Sciences, was named a Chan Zuckerberg Science Diversity Leadership Awardee.</p>
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence Fisk is home to the John Lewis Center for Social Justice which “aims to foster and advance a social justice agenda into every sphere of contemporary society. We do so through rigorous research, applied scholarship, artistic and cultural production, and community engagement at a local and global level. As the intellectual hub on campus, the center is committed to putting interdisciplinary ideas and theories into direct action on the ground.”</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence The Data Science Innovation Hub offers students the paid opportunities to contribute to ongoing research projects by faculty members and students at Fisk University and beyond. In addition, Fisk’s industry partnerships allow industry partners to hold seminars and work sessions with students where they discuss real world problems encountered in the industry as well as offering internships. The Fisk University Data Science program offers an innovative approach to Data Science preparing students for a diverse workforce.</p>

Indicator	Strong Evidence	Fisk
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence The National Science Foundation (NSF) has awarded Fisk University funds to establish a Center of Research Excellence in Science and Technology (CREST) - Center for Biological Signatures and Sensing (BioSS). The objective of the Center’s presence is to establish a strong interdisciplinary, collaborative, and innovative research program promoting the creation of new knowledge by fostering collaborations among Fisk faculty members from multiple disciplines and scientists from other universities, national labs, and industries.</p> <p>The Fisk University John Hope and Aurelia E. Franklin Library has received \$1.6 million from the Mellon Foundation to support the implementation of a new digital platform for the Julius Rosenwald Fund Collection. This four-year project will provide unprecedented public access to a collection of over 650,000 items and more than 1.4 terabytes of data online.</p>
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>All students must take an interdisciplinary ethics or social justice course regardless of their major. The required course has clearly mapped learning objectives and standards around issues of systemic equity, opportunity and access, power and privilege, global cultures, and critical race theory.</p>	<p>Strong Evidence This fall (2022), Fisk University is launching its first course in the field of diversity, equity, and inclusion (DEI): ‘Advancing Diversity, Equity, & Inclusion in Business and Beyond’. The importance of DEI in society and business has increasingly been brought to the fore in recent years. The corporate world is undergoing a seismic shift, and DEI is predictably proving to be both good for business and good for society. Fisk University is excited for its students to gain this experience and for the institution to remain at the forefront of higher education programming.</p>

Indicator	Strong Evidence	Fisk
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence Fisk’s Office of Sponsored Programs support collaboration among faculty in a variety of ways. Its mission is “to encourage the creation of new knowledge through research and scholarly activity of faculty and advanced students.” Sponsored programs are projects and/or activities originated and conducted by members of the faculty and staff members. Program funding is usually obtained from government sources, but the private sector or joint academic ventures may also provide funding opportunities. The Office also conducts workshops, seminars, etc. for groups ranging in size from small interest groups (two or three faculty interested in a particular area) to a division or entire faculty and staff.</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/ or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence Fisk offers fellowships and exchange programs that allow students to earn a Ph.D. in Interdisciplinary Studies.</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>		<p>Unclear</p>

Indicator	Strong Evidence	Fisk
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence</p> <p>Fisk has a strong community service component built into its mission: “We believe that individuals achieve high standards when supported by the collective work of others. We reinforce this value by constantly creating opportunities to collaborate both inside and outside of traditional alliances on our University, our proximate community, and the world.” The school recently transitioned to a new platform to track volunteer hours called MyVoluntier. On this site, you will be able to track and get your hours approved.</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>		<p>Unclear</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence</p> <p>See Fisk’s Office of Sponsored Programs.</p>

Indicator	Strong Evidence	Fisk
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence</p> <p>The Data Science Club offers students from any discipline the opportunity to be part of the Data Science family. Members of the Data Science club determine the focus of the club and problems, tools and technologies that the students address and learn.</p> <p>Fisk also offers a number of summer programs, such as: Talented Tenth Leadership Development: A program to create hope and opportunities for young men of color, develop leadership skills and roles across multiple industries and sectors; THRUST partners community organizations with parental involvement; and GUSTO (Girls Using Scientific Tools for Opportunities in STEM).</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>Fisk houses the Beth Madison Howse Mini College, which is designed to surround children with Fisk culture and encourage them to think of college attendance at a young age and perhaps even consider matriculating at Fisk. The mini college provides a college-like atmosphere for school-aged children where fun and learning math, science, fitness, language arts, social studies, art, music, speech, dance, etc. The college accepts applications from children ages 5-12. The curriculum is still centered on cultural arts, math, science, speech, music, dance, computer programming, Spanish, Life’s Little Lessons, Black History, Field trips, etc.</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>

<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>		<p>Unclear</p>
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APPENDIX K: FLORIDA A&M UNIVERSITY (FAMU)

Indicator	Strong Evidence	FAMU
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence</p> <p>FAMU offers programs in Computer & Information Sciences, IT, Mathematics, as well as 11 various Engineering types (Biomedical, Chemical, Civil, Computer, etc.) in the College of Engineering that is jointly run with Florida State University.</p> <p>FAMU also features a Center for Cybersecurity, and it is designated as a National Center of Excellence.</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence</p> <p>The university has numerous tenured, nationally recognized faculty working in the PIT adjacent STEM fields. For instance, six faculty members were honored with Director awards at the National Symposium on Student Retention Conference in 2021.</p>
Indicator	Developing	FAMU
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptions and learning objectives suggests a focus on issues of DEI, social justice, and/or public interest, but it is often implied rather than explicit and/or concentrated in certain disciplines.</p>	<p>Developing</p> <p>Florida A&M has scattered social justice, DEI and public interest courses throughout the curriculum, but most are concentrated in the Law and Criminal Justice programs, such as Law, Policy and Social Justice; Social Movements; and Race, Class and Justice.</p>

Indicator	Strong Evidence	FAMU
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence</p> <p>Sociology and Criminal Justice departments heavily incorporate internship courses into their curriculum and focus on project-based learning.</p> <p>The Bachelor of Science degree in Information Systems requires traditional coursework, business, and laboratory research. It also requires two hours of professional development, meaning that the institution is engaging students in non-traditional ways.</p>
Indicator	Developing	FAMU
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a broad variety of resources for innovation in STEM and PIT research and curriculum -- including some evidence of faculty interest and engagement -- but these resources are primarily short-term, grant-funded, are not widely accessible or utilized, and are not up to date.</p>	<p>Developing</p> <p>FAMU has four different libraries, including the Science Research Library. Various resources and special collections are accessible to students, faculty, and staff. FAMU also highlights open educational resources on STEM on their website.</p> <p>Florida A&M also partnered with Apple and Tennessee State to become a community center for coding and creativity. "As part of its Community Education Initiative, Apple is supporting FAMU with equipment and ongoing professional development to become the pre-eminent HBCU C2 community center to bring coding and creativity to Tallahassee, Florida."</p>
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primarily an elective and is not required for all students in all majors.</p>	<p>Developing</p> <p>Florida A&M does not have a social justice gateway course, but does offer a number of electives as noted above.</p>

<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>FAMU</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>The institution has some departments or programs which draw heavily on interdisciplinary methodology (such as gender studies or ethnic studies), and/or requires students to take a minimum number of electives outside of their major discipline.</p>	<p>Strong Evidence</p> <p>FAMU's Division of Interdisciplinary Studies focuses on flexibility and allows for students to design their own major and minor, including concentrations in health, science, education, humanities, global studies, and communications and design.</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has informal but demonstrable relationships with local community colleges which serve as feeder schools (e.g., joint participation at recruitment events).</p>	<p>Strong Evidence</p> <p>FAMU currently has articulation agreements with 18 Florida College System institutions throughout the state.</p>

Indicator	Developing	FAMU
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been at the helm of developing at least one innovative and/or interdisciplinary program and has expressed an intent to support future innovation including public interest work.</p>	<p>Developing</p> <p>Leaders like Maurice Edington, Provost and Vice President for Academic Affairs, support strategic partnerships with the surrounding community, including corporations and government. According to the website, before becoming Provost: “Edington also served as founding dean for FAMU's College of Science and Technology. Under his leadership the college increased freshman retention rates, grant awards, and graduate enrollment. He spearheaded the development of the college’s inaugural strategic plan, revamped the college’s tenure and promotion criteria, and implemented several academic support initiatives to increase student success rates in several science and mathematics gateway courses. Additionally, Edington facilitated the college’s efforts in establishing strategic partnerships with several corporations and government agencies to garner support for the college’s strategic priorities.”</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has documented incentives for faculty interested in innovative or interdisciplinary work, action research, or community-based service (such release time) but does not factor this work in review for faculty tenure and promotion.</p>	<p>Developing</p> <p>The College of Law encourages students to apply for the Justice John Paul Stevens Public Interest Fellowship, focusing on public interest law. FAMU students have received this fellowship two years in a row. There are other fellowships for students and faculty related to racial justice and DEI.</p>
Indicator	Strong Evidence	FAMU
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence</p> <p>FAMU has a Teaching and Learning Center focused on providing professional development for faculty. There are also numerous resources and funding opportunities for faculty to take advantage of.</p>

<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University's TELOS (Technology for Equity in Learning Opportunities).</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>FAMU</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as "Black Girls Code," which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>FAMU has the Developmental Research School K-12 Initiative focused on providing "future rattlers" with "opportunities to grow and develop through interactive and supportive instruction and activities." SMART Academies focuses on working through federal and state education mandates, and it is heavily focused on STEAM disciplines.</p>
<p>Indicator</p>	<p>No Evidence</p>	<p>FAMU</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p>

Indicator	No Evidence	FAMU
Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.	Institution offers few- to none of these kinds of opportunities.	No Evidence
Indicator	Developing	FAMU
Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.	Institution is dedicated to making institutional data more public and accessible but still has very few channels for sharing and distribution.	Developing The Division of Research shares faculty research and Center/ Institute research on their site, but it is unclear how they disseminate to the general public.
School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.		Unclear

APPENDIX L: HUSTON-TILLOTSON UNIVERSITY (HT)

Indicator	Developing	HT
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Robust STEM departments and degree programs, at least two or three of which are aligned with PIT.</p>	<p>Developing</p> <p>HT has programs in Computer Science, Computer Information Systems, Pre-Engineering, and other traditional STEM programs. They also have a Center for Civic Engagement and Community Outreach that engages in partnerships, programs, articulation agreements and student engagement through internships, clinical experiences, and extracurricular activities.</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>		<p>Unclear</p>
Indicator	Strong Evidence	HT
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence</p> <p>The HT Core Curriculum features courses that include language on citizenship and social responsibility, effective communication, and effective use of technology. The Core Curriculum also emphasizes the value of human diversity and mandates 6 hours of diversity-focused courses.</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence</p> <p>STEM majors such as Biology and Computer Science require laboratory management, internships, and a research project indicating a strong presence for community-based learning.</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	Developing	HT
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a broad variety of resources for innovation in STEM and PIT research and curriculum -- including some evidence of faculty interest and engagement -- but these resources are primarily short-term, grant-funded, are not widely accessible or utilized, and are not up to date.</p>	<p>Developing</p> <p>The university features a library with a broad variety of databases and research resources to supplement PIT innovation.</p>
Indicator	No Evidence	HT
<p>Institution offers an ethics or social justice course as a required/ gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>No such class in existence.</p>	<p>No Evidence</p>
Indicator	Developing	HT
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>Evidence of interdisciplinary collaboration and co-teaching can be found in course descriptions and syllabi, and there is ample evidence of faculty with dual academic appointments in the same school (for example in History and Africana Studies, or in Education and Psychology). There is some evidence of faculty collaboration in research and grant writing, but the onus is primarily on the faculty.</p>	<p>Developing</p> <p>HT's 2021 Faculty Grant Award Winners list features three grants awarded to multiple faculty members collaborating on the same project. Not only are there funding opportunities through the institution, but they also foster interdisciplinary engagement across fields.</p>

Indicator	No Evidence	HT
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>The institution has no formal interdisciplinary degree programs or opportunities for students to take upper-level courses/electives outside of their disciplinary degree program/division.</p>	<p>No Evidence</p>
Indicator	Developing	HT
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has informal but demonstrable relationships with local community colleges which serve as feeder schools (e.g., joint participation at recruitment events).</p>	<p>Developing</p> <p>HT has several articulation agreements with Texas Lutheran University and Texas State University.</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been at the helm of developing at least one innovative and/or interdisciplinary program and has expressed an intent to support future innovation including public interest work.</p>	<p>Developing</p> <p>In 2020, HT launched a program focused on coding and creativity in collaboration with Apple and Tennessee State University. As part of the institution’s Community Education Initiative, Apple supported HT with equipment and professional development to bring coding to Central Texas. This initiative was spearheaded by former President Burnette, and it is clear that this institution is invested in community-based work.</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>		<p>Unclear</p>

<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>		<p>Unclear</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>		<p>Unclear</p>
<p>Indicator</p>	<p>No Evidence</p>	<p>HT</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has no record of high school outreach, mentoring and/or bridge programs at all.</p>	<p>No Evidence</p>

Indicator	Developing	HT
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has experimented with at least one or two such programs and shows interest and commitment to supporting and developing these initiatives further, but they do not yet focus on PIT related topics.</p>	<p>Developing</p> <p>Pre-apprenticeships and apprenticeships are available at HT. With Apple and Tesla’s help, business, pre-engineering, mathematics, and computer science academic programs benefit from innovative, “on the job” learning.</p>
Indicator	Strong Evidence	HT
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>	<p>Institution has numerous, ongoing, institutionally funded mentorship, post-doc and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.</p>	<p>Strong Evidence</p> <p>Huston-Tillotson University has partnered with the University of Texas, Austin (a PIT-UN member) to use PIT-UN funding to create a new Social Justice Informatics Faculty Fellows Program. As such, Huston-Tillotson might be well positioned to be a part of PIT-UN.</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>		<p>Unclear</p>

APPENDIX M: JACKSON STATE UNIVERSITY (JSU)

Indicator	Strong Evidence	JSU
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence</p> <p>JSU has a College of Science, Engineering and Technology (CSET) which has a strong emphasis on undergraduate research: “Multidisciplinary research by teams of faculty, students, and post-doctorate research associates, provides excellent opportunities for student research training and development in several research centers and multi-user core research facilities. These and much more are available to inspire a new generation of scientists, technologists, engineers and mathematicians.”</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>		<p>Unclear</p>
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>		<p>Unclear</p>

Indicator	Strong Evidence	JSU
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence</p> <p>Jackson State houses the Center for Service and Community-based Learning which “promotes all students toward improving the human condition through civic engagement.” Through the Center “the university is able to continue to expand its role in cultivating and sustaining stronger communities. Your service in the community of a few hours a week will make a difference to people and the society. The immersion in another culture deepens your understanding of our society in a way that goes beyond your preconceived orientation. Serving in the community helps students learn what challenges communities face and see how their work furthers the community’s goals. It also helps build valuable relationships with the people whom you serve. You can make a difference by supporting and contributing to meet a need in the community that affects the lives of the elderly, homeless, people with disabilities, schools, childcare centers and many other community organizations.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence</p> <p>Jackson State University’s College of Health Sciences, “A CEPH-accredited School of Public Health,” has been awarded a \$10 million cooperative grant from the U.S. Health and Human Services’ Office of the National Coordinator (ONC) for Health Information Technology. The ONC created a Public Health Informatics and Technology (PHIT) Workforce Development Program that will allow JSU to train public health professionals in collecting scientific data for improving clinical and medical decisions.</p>
Indicator	No Evidence	JSU
<p>Institution offers an ethics or social justice course as a required/ gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>No such class in existence.</p>	<p>No Evidence</p>

Indicator	Strong Evidence	JSU
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>The Faculty Development for Student Success activity is a junior faculty mentoring program that “aims to cultivate a faculty-initiated culture of innovation that encourages teaching, advising excellence and collaboration, promotes career-long faculty development in scholarly and creative activities as well as in professional development activities.”</p> <p>In partnership with the Division of Academic and Student Affairs and the Division of Research and Federal Relations, the U.S. Department of Education-funded Center for University Scholars hosted the Faculty Engagement and Advancement Program (FEAP) for three years as an outgrowth of the JSU ADVANCE project’s efforts to improve the climate and culture at JSU. “The program included interactive workshops, panel discussions, and presentations by guest speakers. These activities engaged faculty at various stages in their careers in pursuing excellence in research, teaching, and service and provided new JSU faculty a way to become engaged in the intellectual life of the University.”</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/ or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence</p> <p>JSU’s Bachelor of Science Degree in Professional Interdisciplinary Studies (PRIS) online degree program “is a flexible degree program for mature adults who seek a nontraditional method for obtaining a bachelor’s degree. The Interdisciplinary Studies Program allows students to tailor coursework to meet their personal and professional needs. Students can transfer in many of the credit hours they have previously completed in other areas of study. The curriculum includes: digital computer principles, social institutions, social change, and human resource development.”</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>		<p>Unclear</p>

Indicator	Strong Evidence	JSU
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence</p> <p>The many community-based initiatives and centers suggest an institutional commitment. Moreover, Jackson State University President Thomas K. Hudson “grew up in Jackson, Mississippi, where he attended and graduated from JSU in 1999. He went on to receive his Juris Doctor from the University of Mississippi School of Law. With an equity-based focus, Hudson established a successful private practice, and served as an EEO specialist for the Department of Homeland Security/FEMA.”</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence</p> <p>The Jackson Heart Study (JHS) Community Outreach Center (CORC) is “a center that is deeply concerned with reducing the gap between research and practice. Understanding that many researchers have a limited understanding of and experience with effective methods of engaging communities, the CORC advocates that community engagement in JHS research should be encouraged to enhance the JHS community's ability to address its own health needs and health disparities issues. The CORC staff actively strives to ensure that JHS researchers understand community priorities.... CORC places much emphasis on developing long-term programs that combine the knowledge and skills of experienced community and research partners in participatory research.”</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence</p> <p>The Faculty Mentoring Component of ADVANCE is described as: “A mentoring program was established to support the tenure and promotion efforts of STEM-SBS junior faculty and mid-career faculty. The mentoring component and its related activities were founded on the belief that although mentoring was essential to career advancement, traditional mentoring models might not be effective for women in STEM-SBS disciplines at HBCUs. With input from women faculty, insight from current literature, and observations of what works in providing institution and discipline specific mentoring options, the JSU ADVANCE mentoring component became a model for university wide faculty development.”</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>JSU</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreach, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>Jackson State is part of the Call Me MISTER program which trains African American male students to become teachers and has them work and do service in local schools and communities.</p>
<p>Indicator</p>	<p>No Evidence</p>	<p>JSU</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.		Unclear
Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.		Unclear
Indicator	Strong Evidence	JSU
School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.	The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.	Strong Evidence

APPENDIX N: METROPOLITAN COLLEGE OF NEW YORK (MCNY)

Indicator	Developing	MCNY
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Robust STEM departments and degree programs, at least two or three of which are aligned with PIT.</p>	<p>Developing</p> <p>Metropolitan College does not seem to have a STEM School or Department, and although Metropolitan Colleges offers some degrees in Information Technology, they are generally very traditional in nature and do not address public sector issues, with the exception of the M.B.A. in Media Management which “provides the business competences, the media-specific competencies, and conversations about social justice and how all this impacts society, but especially communities of color and marginalized communities.”</p>
Indicator	No Evidence	MCNY
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>Small STEM faculties, often populated with adjunct professors who teach pre-packaged, traditional courses.</p>	<p>No Evidence</p>
Indicator	Developing	MCNY
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptions and learning objectives suggests a focus on issues of DEI, social justice, and/or public interest, but it is often implied rather than explicit and/or concentrated in certain disciplines.</p>	<p>Developing</p> <p>Through the B.A. program of Professional Studies in Human Services the institution offers a number of DEI related courses, including: Values and Ethics; Introduction to Social Systems; Social, Political and Economic Aspects of Service Delivery Systems; Comparative Studies of Educational Philosophies; Empowerment through Community Liaison; and Change Management.</p>

Indicator	Developing	MCNY
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution has some courses that engage students in non-traditional and community-based learning, although they are not always well integrated into a defined set of learning goals.</p>	<p>Developing The Masters of Arts in Community Health program's “focus is placed on applying academic studies to real life experience. The program goals are as follows: 1) To provide students with a rigorous education that enables them to attain knowledge, skills, abilities and values in the core disciplines of community health education so that they can address the health and wellness needs of communities. 2) To involve students in interdisciplinary scholarly activities using qualitative and quantitative methods to foster critical reflection on the development of community health education programs, as well as competency in key areas of assessment of community health needs, program evaluation and resource development. 3) To provide meaningful opportunities for students and faculty to collaborate with local, regional, state, national and international organizations on projects and activities that improves the health and well-being of diverse populations.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>		<p>Unclear</p>
Indicator	No Evidence	MCNY
<p>Institution offers an ethics or social justice course as a required/ gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Small STEM faculties, often populated with adjunct professors who teach pre-packaged, traditional courses.</p>	<p>No Evidence</p>

<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>		<p>Unclear</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/ or receive credit for upper-level courses outside of their discipline, or design their own major.</p>		<p>Unclear</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>		<p>Unclear</p>

Indicator	Strong Evidence	MCNY
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence President Joanne Passaro was named as one of this year’s Education Power Players by amMetroNY & PoliticsNY: “She is our messenger of the school’s mission to provide a superior, experientially-based education that fosters personal and professional development, promotes social justice, and encourages positive change in workplaces and communities.”</p> <p>A first generation college student herself, Joanne Passaro is a cultural anthropologist who holds B.A. and Ph.D. degrees from Duke University. Highly committed to social justice and equality throughout her career, she has done notable research on the impact of race, class, and gender in Latin America, Europe, and the U.S. She is the author of <i>The Unequal Homeless: Men on the Streets, Women in their Place</i>, (Routledge, 1996), as well as many articles related to gender, ethnicity, and higher education.</p> <p>=Passaro stated, “Collaboration is the cornerstone of my success and I look forward to working with faculty, students, and alumni, as well as community and corporate leaders, to build recognition of and support for MCNY. I plan to leverage all my resources and drive to create new opportunities for underserved students.”</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence MCNY's Urban Scholars Program is designed to: to foster better understanding among scholars, experts, students, policy makers, and ordinary citizens of the public policies that shape the life of New York City and other urban centers. The program has three strategic goals: 1) Provide a forum in which scholars, legislators, policy makers, students, and citizens can exchange ideas and discuss issues and trends that affect New York City and other urban centers across the nation; 2) Facilitate the development of urban policy informed by research, analysis, and debate among scholars, policy makers, students, and New Yorkers most affected by social problems and public policy; and 3) Introduce the college’s students to the spectrum of ideas, theories, and viewpoints that inform and/or influence urban policy.</p>

Indicator	Strong Evidence	MCNY
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence Metropolitan is part of SENCER, a national dissemination project designed to promote reform through faculty development, a focus on local systemic change, and improved assessment strategies. The project is supported with a grant from the National Science Foundation and is designed to achieve three pressing goals: to improve science education, especially for students who may never major in a scientific field; to connect science education reform to more robust and relevant general education programs; and to stimulate informed civic engagement with scientific questions on the part of today’s students.</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence The Peer Leadership group is at the heart of the MCNY Black Maternal Initiative: “Recruited from among MCNY students and alumni through an application process, Peer Leaders will have the opportunity to meet and work with the project’s community partners as well as with other leaders in public health, medicine, political advocacy, activism. They will do research and discuss the issues among themselves, drawing from an array of different life and work experiences and leveraging the knowledge and practices of their own different academic disciplines. “</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>		<p>Unclear</p>

Indicator	No Evidence	MCNY
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>		<p>Unclear</p>

APPENDIX O: MORGAN STATE UNIVERSITY

Indicator	Developing	Morgan State
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Robust STEM departments and degree programs, at least two or three of which are aligned with PIT.</p>	<p>Developing Morgan State has a robust number of STEM degree programs however most of the programs are traditional in nature, and do not address PIT-aligned topics. More PIT related topics are found in the College of Interdisciplinary and Continuing Studies, such as the program in “Society Equity and Urbanism,” described as: “The B.S. in interdisciplinary Studies in Societal Equity, and Urbanism appeals to potential students who are working in local government, criminal justice, construction, architecture, or urban design. This program will also appeal to students who have taken courses in architecture, mathematics, computer sciences, urban studies, or social work. The potential graduates of this program will have growth opportunities in their careers such as architecture, urban planning, public administration, law, or business.”</p> <p>In 2017, Intel awarded Morgan State \$750,000 to support student success in STEM: “Three-Year Investment Aims to Improve Retention Rates and Increase STEM Field Participation Morgan State University has announced the award of a three-year, \$750,000 grant from Intel Corporation to support the University’s continued efforts to educate students in the engineering disciplines and prepare graduates to make immediate contributions to science-, technology-, engineering- and math- (STEM-) related fields. The Intel HBCU Grant Program, a component of the company’s Diversity in Technology initiative, is a proactive effort to reduce the underrepresentation of African-American students in STEM programs in college while helping to increase diversity in the technology industry by expanding the recruiting pipeline.”</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>		<p>Unclear</p>

Indicator	Developing	Morgan State
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptions and learning objectives suggests a focus on issues of DEI, social justice, and/or public interest, but it is often implied rather than explicit and/or concentrated in certain disciplines.</p>	<p>Developing Courses exist on social justice topics, but they are not easy to identify. Most are located in the College of Interdisciplinary and Continuing Studies.</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution has some courses that engage students in non-traditional and community-based learning, although they are not always well integrated into a defined set of learning goals.</p>	<p>Developing Morgan State’s B.S. in Strategic Communication has a project-based learning component: “As important as classroom instruction is, students need practical, hands-on experiences in as real world a setting as possible. They get those experiences in The Strategy Shop, a School of Global Journalism and Communication in-house strategic communications operation. Students create real communications campaigns for real clients in a faculty-supervised setting. Finally, because the world is interconnected in ways never dreamed possible in earlier decades and because so many businesses and organizations operate across national boundaries, the major in Strategic Communication has an important global focus. That focus has two directions. First, students learn about creating and executing communications campaigns for targeted audiences in different parts of the world in ways that recognize the diversity of those audiences. Second, students learn how the strategic communication process is viewed in other nations and how that affects how the process is done.”</p>
Indicator	Strong Evidence	Morgan State
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence Morgan State houses a variety of Research Centers relevant to PIT and equity issues, such its Cybersecurity Assurance and Policy Center, Urban Mobility and Equity Center, Rocketry Program, and Center for Health Disparities Research and Innovation.</p> <p>Morgan State received an award from the National Science Foundation (NSF) as part of an effort to implement strategies and advance curricula designed to increase the number of undergraduates with degrees across the highly critical fields of science, technology, engineering and mathematics (STEM). Spanning five years, the \$999,531 federal grant will encompass a multidisciplinary approach to meeting specific demands related to development and retention of students advancing into STEM-related careers—both in practice and as future educators.</p>

Indicator	Developing	Morgan State
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primary an elective and is not required for all students in all majors.</p>	<p>Developing Courses exist on social justice topics, but they are not required or easy to identify.</p>
Indicator	Strong Evidence	Morgan State
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other's research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence Morgan State has standard faculty professional development opportunities. In addition, Morgan State houses the Presidential Distinguished Speakers Series which was developed “to bring the nation's leading thought leaders from various professional fields of study to Morgan State University. The Series is in keeping with Morgan's mission of serving as a leading academic resource by providing a platform for thoughtful and provocative discussions that explore the best ideas on issues that are pertinent to our students, our community, and our nation. The lectures will offer the opportunity for Q & A with the featured speakers.” Past speakers include Cornell West and Lorretta Lynch.</p>

Indicator	Strong Evidence	Morgan State
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence</p> <p>Morgan State University has a College of Interdisciplinary and Continuing Studies, which offers a variety of undergraduate and graduate degree programs in Global Perspectives and Practices; Society, Equity and Urbanism; Technology Services; Interdisciplinary Sciences; Engineering, Information and Computational Sciences; Journalism; and Mass Communication, among others.</p>
Indicator	Developing	Morgan State
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has informal but demonstrable relationships with local community colleges which serve as feeder schools (e.g., joint participation at recruitment events).</p>	<p>Developing</p> <p>There is a page for agreements on the website, but it pretty standard.</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>		<p>Unclear</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>		<p>Unclear</p>

<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>No Evidence</p>	<p>Morgan State</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Most institutional student-centered clubs or initiatives are traditional in nature and do not address either PIT-related or JEDI topics.</p>	<p>No Evidence</p>

Indicator	Strong Evidence	Morgan State
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>Morgan State has a partnership with the U.S. Department of Defense (DoD), which has expanded MSU’s role in developing much-needed talent in STEM: science, technology, engineering and mathematics. Through the initiative, Morgan’s Center for Excellence in Mathematics and Science Education (CEMSE), which is housed within the School of Education and Urban Studies, has been designated as the East Coast Hub for the recently launched Defense STEM Education Consortium (DSEC), an organization whose goal is to strengthen STEM education and STEM outreach programs in kindergarten through college across the country.</p> <p>The NASA Science Engineering Mathematics and Aerospace Academy, or SEMAA, is “a national innovative project designed to increase participation and retention of historically underrepresented K-12 youth in the fields of science, technology, engineering and mathematics, or STEM. The goals of the NASA SEMAA project are to inspire a more diverse population of students to pursue careers in STEM; engage students, teachers and parents by incorporating emerging technologies into the project; and provide a challenging curriculum that meets state math, science and technology standards. SEMAA proactively addresses these goals by delivering a ‘hands-on, minds-on’ curriculum.”</p>
Indicator	No Evidence	Morgan State
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>Morgan State</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>	<p>Strong Evidence</p>

APPENDIX P: MOREHOUSE COLLEGE

Indicator	Strong Evidence	Morehouse
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence</p> <p>Morehouse has a full STEM program, and is nationally renowned for its STEM medical training program. According to the website: “The STEM Division develops an interdisciplinary curriculum that prepares students for advanced studies and future careers that build upon STEM disciplines. The STEM Division develops future leaders who are innovators and problem solvers, with a cultural and social consciousness of global problems that affect modern society. Students who graduate with majors in the STEM Division influence technological, social, and political decisions that address critical global challenges.”</p> <p>Morehouse also offers a strong program in Communications with the intended outcome of helping students to: “Evaluate key theoretical approaches within the interdisciplinary field of communication,” and to “apply knowledge of human communication and social and cognitive processes across various contexts and from multiple perspectives, e.g., interpersonal, small group, organizational, intercultural, interracial, and media and mass communication.” Courses include: Interracial Communication, African American Rhetoric, Intercultural Communication, and Communication and Social Justice.</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence</p> <p>Morehouse is renowned for its STEM programs and the caliber of the faculty. One such example is: Nathan Alexander who “is an assistant professor of data science and interdisciplinary studies, and he teaches courses in mathematics, computational methods, and education. His work explores the development of critical and justice-oriented practices in quantitative literacy development. This work sits at the intersection of the humanities, social sciences, mathematics, and computational sciences, with a particular focus on Black history and futurity in national and global contexts. At Morehouse, he directs the Quantitative Histories Workshop, a community-centered teaching and learning lab for students and faculty.”</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	Strong Evidence	Morehouse
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence</p> <p>Morehouse has a Division of Social Sciences and Cultural Studies which offers many majors, minors and courses on social justice related topics, for example: Black Men, Black Boys and The History of Modern Media.</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence</p> <p>The Bonner Office of Community Service “provides infrastructure and support for students, faculty, and staff to receive training and learn best practices to support the design, implementation, and assessment of community impact interventions. Committed to Morehouse's mission, we support faculty to implement service-learning in their courses while providing servant leadership to community partners via our community service scholarship programs.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence</p> <p>Morehouse has a Center for Broadening Participation in Computing which “aims to increase the participation of Blacks and other underrepresented and marginalized groups in the computing workforce, reduce the harm done by emerging technologies to members of society, and decrease disparities among disenfranchised groups through the tech ecosystem.” The Center is advised by an Innovation Advisory Board of tech industry experts and Morehouse educators committed to sharing best practices and research in STEM curriculum innovation and tech equity.”</p> <p>Morehouse also has a Culturally Relevant Computer Lab.</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	Developing	Morehouse
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primarily an elective and is not required for all students in all majors.</p>	<p>Developing</p> <p>Morehouse has many courses on social justice issues, but none are required.</p>
Indicator	Strong Evidence	Morehouse
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>The website states: “Our faculty community values the important work of higher education, the creativity of innovative problem solving of our interdisciplinary curriculum, and the unique perspectives each member brings.”</p> <p>In addition, Morehouse houses The Black Men’s Research Institute described as: “By engaging scholars, students, researchers, the social justice community, policymakers, and the general public, BMRI will engage in activities that advance understanding of Black masculinities through various disciplinary lenses and as an important consideration for social, cultural, historical, and policy matters.” The Institute offers symposia, public lectures, curriculum development workshops, teaching and scholarship funding, and social justice funding.</p>

Indicator	Strong Evidence	Morehouse
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence</p> <p>Morehouse has a Division of Experiential Learning and Interdisciplinary Studies.</p> <p>The International Comparative Labor Studies program: “was established in 2017 to create pathways for Morehouse graduates to enter social justice careers in leadership, research, and community organizing. Black Colleges and Universities (HBCUs) have played an inextricable role in fostering scholars who spearheaded academic disciplines that support the advancement of human and civil rights in the South.”</p> <p>In addition: Founded by famed filmmaker Spike Lee '79 and the late ESPN sports columnist Ralph Wiley, the Journalism in Sports, Culture, and Social Justice at Morehouse “addresses the needs of student journalists who are mastering media and technological literacy using creativity and innovation.”</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>		<p>Unclear</p>
Indicator	Strong Evidence	Morehouse
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence</p> <p>On its website, Morehouse displays its creed: "Men of Morehouse look forward to bolstering community-oriented efforts that improve the quality of life for Black Americans and other marginalized groups. If you were to ask us why we serve, we would answer—if not this, then what? If not now, then when? If not me, then who?"</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	Strong Evidence	Morehouse
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence</p> <p>Morehouse is nationally known for its commitment to community service and empowerment.</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>		<p>Unclear</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University's TELOS (Technology for Equity in Learning Opportunities).</p>		<p>Unclear</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	Strong Evidence	Morehouse
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence</p> <p>SMASH Academy, Morehouse’s flagship program, is a FREE, 3-year, intensive STEM-focused college prep program that empowers students to deepen their talents and pursue STEM careers. Each summer, scholars are immersed in tuition-free studies in partnership with leading universities throughout the country. During the academic year, scholars participate in monthly programming.</p> <p>Morehouse has a large number of programs for Black male students who want to become teachers, including a Lab School and Aspiring Principals program.</p>
Indicator	No Evidence	Morehouse
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p>
Indicator	Strong Evidence	Morehouse
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>	<p>Institution has numerous, ongoing, institutionally funded mentorship, post-doc and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.</p>	<p>Strong Evidence</p> <p>The McNair Scholars Program at Morehouse was: “designed specifically for STEM majors. We are a year-round graduate school preparatory program with an eight-week summer research component designed to prepare first-generation undergraduates demonstrating the strong academic potential for doctoral studies through involvement in research and other scholarly activities. The program provides research opportunities, faculty mentors, opportunities to publish and present research findings, and assistance with the graduate school application process.”</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>Morehouse</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>	<p>Strong Evidence</p>

APPENDIX Q: NORTH CAROLINA CENTRAL UNIVERSITY (NCCU)

Indicator	Strong Evidence	NCCU
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence</p> <p>NCCU has a full array of STEM degree programs, including a B.A. program in Information Technology with three concentrations in Cybersecurity, Data Analytics, and Information and Communications Technology (ICT).</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence</p> <p>Alade O. Tokuta is a professor in the Mathematics and Physics department actively works on implementing research-based instructional approaches to improve STEM student outcomes as well as increasing the participation of minorities and women in STEM through data science.</p> <p>Associate Professor Lenora Helm Hammonds was selected as a John Hope Franklin Digital Humanities Fellow in the second cohort of the NCCU-Duke University partnership. “The fellowship gleaned a body of digital humanities assets and products used in coursework in music curricula and arts education community projects. The digital humanities artifacts included new media, story maps, audio/visual multi-media bibliographies and discography document networks. These projects involved the collaborations of students, instructional technologists, faculty and staff in the College of Arts, Social Sciences and the Humanities, the School of Business and the School of Library and Information Sciences.”</p>

Indicator	Strong Evidence	NCCU
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence NCCU has a number of programs and projects related to social justice, including an on-line Equity Certificate Program: “The vision of the Equity Certificate program is to prepare equity-focused 21st Century teacher leaders and school leaders who can engage school communities in meaningful ways to positively affect the achievement of students from diverse cultural contexts and from marginalized populations.” Courses include: Culturally Responsive Leadership for Marginalized Communities.</p> <p>Since 2010, NCCU School of Law has been at the forefront of virtual legal education with the launch of its Virtual Justice Project: Initially funded in 2010 with a BTOP (Broadband Technology Opportunity Program) Grant, NCCU School of Law pioneered this approach to address the under-representation of African American lawyers and a lack of access to justice for low income and marginalized communities.</p> <p>The RCN: Smart Civic Engagement in Rapidly Urbanizing Regions: Project Overview provides: a collaborative platform for knowledge sharing that suits stakeholder needs, swift decision-making remains a deep challenge across geographic space, levels of governance, and spectra of expertise for addressing large-scale environmental and social problems. The project unites leaders from local and regional governments, non-governmental organizations, and research teams specializing in natural and social sciences to formulate an online engagement system that will facilitate decision-making and the shared development of research questions for urban planning and resource management in North Carolina.</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence NCCU has a whole section of their website related to resources for Research-based Teaching.</p> <p>Alade O. Tokuta is a professor in the Mathematics and Physics department actively works on implementing research-based instructional approaches to improve STEM student outcomes as well as increasing the participation of minorities and women in STEM through data science.</p>

Indicator	Strong Evidence	NCCU
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence</p> <p>See various centers and initiatives throughout this rubric.</p>
Indicator	Developing	NCCU
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Developing</p> <p>There is no “gateway” course, but NCCU has many centers, courses, degree programs, and research initiatives devoted explicitly to social justice as described herein.</p>

Indicator	Strong Evidence	NCCU
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence NCCU’s Technology, Law and Policy Center offers an annual Summit. In 2022, it brought together faculty from all disciplines for a two-day hybrid summit consisting of a series of keynotes, presentations, and panel discussions designed to examine issues and current developments in law and technology, including artificial intelligence, data privacy, cybersecurity, tech policy, legal services regulatory reform. Panels included: Technology Solutions to the Access to Justice Crisis; Technology Policy; HealthTech; Open Source Technology; and Confidentiality in the Age of Remote and Hybrid Work.</p> <p>The NSF CREST Computational Center for Fundamental and Applied Science Education whose mission is to: “carry out cutting-edge fundamental and applied research, an equally important goal is development of novel cross-disciplinary undergraduate and graduate educational programs at NCCU. The center enhances participation by STEM students in computational, theoretical, and experimental research in all STEM disciplines.”</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence NCCU has a B.A. program in Interdisciplinary Studies, with a Communications Arts Concentration (with course options such as Mass Media and Society, International Communication, and History of Mass Communications) as well a Humanities Concentration, and Race, Gender and Class Concentration, among others.</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence The GEOPATHS-IMPACT program enables a sustainable and lasting partnership between NCCU and two North Carolina community colleges: Carteret Community College (CCC) and Alamance Community College (AC).</p>

Indicator	Strong Evidence	NCCU
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence The Participatory Redistricting Project (PRP) has three important components: (1) a partnership between the Department of Political Science, the Lawyers’ Committee for Civil Rights Under Law and the National Conference of Black Political Scientists; (2) mapmaking workshops at North Carolina’s public HBCUs (historically black colleges and universities); and (3) outreach to community groups adjacent to the campuses.</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence NCCU houses the Center for Advancement of Justice Studies and Policy which offers opportunities for active learning, scholarship, service, and public policy in order to help advance the general public welfare, The Institute for Civic Engagement and Social Change which was created in 2006 to increase the level and effectiveness of civic engagement on the campus and in the surrounding community. Five critical focus areas are voter empowerment, research, curriculum development and policy, as well as the Institute for Homeland Security and Workforce Development and the Dispute Resolution Institute.</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence NCCU has a Broadening Participation Research Project: Research for Social Justice – Broadening Participation through Data Science, described as: “The aims of this research project are to increase the participation of minorities and women in STEM through data science. Data science affords students the ability to marry their skills in mathematics, statistics and computer science with their personal passions, be it in health disparities or linguistics. Data science can be used to attract students with such wide-ranging interests, particularly those who want to use STEM as a means to address societal challenges and impact social policies.”</p>

Indicator	Strong Evidence	NCCU
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence NCCU sponsors RISE program which is The Research Institute for Scholars of Equity (RISE) program prepares a new generation of scholars committed to addressing issues of social equity. “RISE is an interdisciplinary training program open to students from North Carolina Central University, University of Southern California (USC), Houston-Tillotson University, Jarvis Christian College, Paul Quinn College, Temple University, Texas College, University of New Mexico, UNC-Wilmington, Wiley College and Virginia Union University. Participants, referred to as 'fellows,' conduct rigorous, high-quality research in education that will improve the schooling experiences and academic attainment of pre-kindergarten through university-level African American and Latino/a students. RISE is a training program that has a dual focus: Provide upper-level undergraduate students with experiences in conducting mixed-methods education research while preparing participants for doctoral study; Assist in increasing diversity in the education sciences.”</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence NCCU houses the Center for Advancement of Justice Studies and Policy which offers opportunities for active learning, scholarship, service, and public policy in order to help advance the general public welfare, The Institute for Civic Engagement and Social Change which was created in 2006 to increase the level and effectiveness of civic engagement on the campus and in the surrounding community. Five critical focus areas are voter empowerment, research, curriculum development and policy, as well as the Institute for Homeland Security and Workforce Development and the Dispute Resolution Institute.</p>

Indicator	Strong Evidence	NCCU
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence NCCU's BRITE Outreach Program is one of many K-12 outreach programs. BRITE: “provides STEM engagement opportunities for middle and high school students and teachers. To date, we have served more than 15,000 students (BRITE Futures K-12 Scholars) and more than 800 teachers from 92 of the 100 counties within North Carolina. The project aims to: Increase the confidence and STEM identity of students with practical experience and engaging activities; Expose students to hands-on STEM learning and professional-grade scientific equipment; and Enlighten students with information about STEM programs and STEM-related careers.”</p> <p>Another program is the North Carolina (NC) GlaxoSmithKline Foundation has awarded NCCU a \$1.85 million grant for a new initiative focused on educating and increasing the number of students pursuing careers in pharmaceutical and life sciences. With this grant, the Foundation has approved over \$4.4 million to support education programs at NCCU, including extensive engagement with high school students. NCCU also was awarded a grant from Google to foster an interest in technology and computer science in K-12 students.</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has many such opportunities, and has robust and active partnerships with employers, non-profits, funders, or government agencies who support these programs and whose mission is aligned with PIT.</p>	<p>Strong Evidence NCCU has an extensive Digital Badging Program, including partnerships with Credly and IBM Skills Academy.</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>	<p>Institution has numerous, ongoing, institutionally funded mentorship, post-doc and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.</p>	<p>Strong Evidence NCCU has a strong Post-Doc Program with scholars placed in many different departments and centers at NCCU, and they are associated with the University primarily with the goal to continue their academic training.</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>NCCU</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>	<p>Strong Evidence</p>

APPENDIX R: TEXAS A&M UNIVERSITY, COLLEGE STATION

Indicator	Developing	Texas A&M
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Robust STEM departments and degree programs, at least two or three of which are aligned with PIT.</p>	<p>Developing</p> <p>Texas A&M has a full STEM program, including a number of degree programs in computer science and engineering, however it appears to be very traditional in nature and does not seem to have a public interest focus.</p> <p>The college does, however, offer a B.A. in Communications, described as: “The Bachelor of Science in Communication harnesses the power of collaborative communication to solve problems through the very essence of this degree, communication intervention. Communication intervention is the skill of collaborating with others effectively to modify outcomes, conditions and processes while also preventing harm with the goal of transforming system functioning. It draws from a transdisciplinary liberal arts and STEM knowledge base. It is a critical key to analyzing and addressing 21st century challenges. We address problem-solving by integrating the critical thinking and perspective taking skills embraced by the liberal arts with the analytical and quantitative proficiencies of STEM. The Bachelor of Science in Communication provides a marketable set of skills aimed toward communication intervention in areas such as business, health communication, media, politics, non-profits and social issues. In addition to core curriculum required by the University and the State of Texas, Bachelor of Science students will take foundation coursework in the social scientific study of communication and intervention, communication technology, communication research methods, acquisition, analysis and visualization of data, team facilitation and collaboration, and the design, implementation and assessment of communication interventions.”</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>		<p>Unclear</p>

Indicator	Developing	Texas A&M
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptions and learning objectives suggests a focus on issues of DEI, social justice, and/or public interest, but it is often implied rather than explicit and/or concentrated in certain disciplines.</p>	<p>Developing Texas A&M offers students the opportunity to major in University Studies – Race, Gender and Ethnicity described as: “This major is purposefully designed to require that students complete coursework that educates them in interdisciplinary knowledge as it relates to race, gender, and ethnicity. It combines concepts included in political science and sociology, as well as history, psychology, and communication. This major is offered as both the Bachelor of Arts and Bachelor of Science.”</p> <p>Texas A&M also has a University Studies – Society, Ethics and Law degree, described as: “In addition to obtaining a broad understanding of society, ethics and law, the degree requires that students pursue experiences and opportunities that typically cultivate the A.B.A.’s recommended skill set including problem solving, critical thinking, writing and editing, oral communication and listening, and research skills.”</p>
Indicator	Strong Evidence	Texas A&M
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence In addition to concentrations in Race, Ethnicity and Gender, Texas A&M offers a minor in Hispanic Studies for Community Engagement, described as: “The minor offers students the opportunity to combine advanced Spanish language skills and Hispanic cultural knowledge with a service-learning experience. This minor complements degrees from other disciplines as it can incorporate courses taught in English that address multiple themes from throughout the Hispanic world. Coursework for this minor consists of Spanish, Anthropology, English, Hispanic Studies, History, Philosophy, Political Science, or Sociology; and a service-learning experience with an organization or institution whose primary focus is providing services to Hispanic or Spanish-speaking communities.”</p> <p>Texas A&M also offers a Performing Social Activism Certificate described as: “The certificate allows students to consider the relationship between performance and social activism. The certificate includes coursework that explores how social activism occurs in and through performance, and how performance can address issues of discrimination, inequality, marginalization, and oppression. Through their course work, students will engage with issues of social activism regarding race and ethnicity, gender and sexuality, class, disability, and/or the environment. They will participate in a service-learning project of their design that engages with social activism, gaining real world experience in using performance to explore and work towards social change, inclusivity, diversity, and social justice. ”</p>

Indicator	Developing	Texas A&M
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a broad variety of resources for innovation in STEM and PIT research and curriculum -- including some evidence of faculty interest and engagement -- but these resources are primarily short-term, grant-funded, are not widely accessible or utilized, and are not up-to-date.</p>	<p>Developing Texas A&M has a lot of programs, centers and services available to support teaching and learning, however, none of them are particularly well aligned with PIT.</p>
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primary an elective and is not required for all students in all majors.</p>	<p>Developing There are many social justice-oriented courses throughout the universities, especially as part of its interdisciplinary certificate and degree programs, although none are required for all students.</p>
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>		<p>Unclear</p>

Indicator	Strong Evidence	Texas A&M
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence Texas A&M has a multi-faceted Interdisciplinary Degree at the Masters' and Doctoral levels. The program includes a certificate/concentration in Cybersecurity, described as: "As the digital age advances, the need to protect the security, safety, and privacy of individuals and enterprises increases. This is true for a wide range of organizations — public, private, not-for-profit, and non-governmental — that all depend on cyber systems. As society becomes more and more connected and as smart systems continue to evolve, there is a clear need for engineers to develop a good understanding of cybersecurity principles."</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>		<p>Unclear</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>		<p>Unclear*</p> <p>**There are so many community-based majors, concentrations and research centers it would be reasonable to assume that it has demonstrated buy-in from leadership, although there is no clear statement to that effect.</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>		<p>Unclear</p>

Indicator	Strong Evidence	Texas A&M
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence The Center for Teaching Excellence has a Faculty Mentoring Academy described as "promoting a culture of mentoring within and across Texas A&M University, faculty can enhance their mentoring capacity using seven evidence-based mentoring competencies developed by CIMER. Each competency workshop utilizes customized case studies and activities and is facilitated by faculty who are trained CIMER facilitators. Designed to maximize faculty interaction and dialogue, these workshops provide a safe environment to share and discuss experiences. Faculty participation can be on a rolling basis."</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as "Black Girls Code," which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>		<p>Unclear</p>
Indicator	Developing	Texas A&M
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as "Black Girls Code," which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has a demonstrated interest in developing high school outreach, mentoring and/or bridge programs (as demonstrated by grant applications and strategic planning documents), but these programs do not necessarily focus on PIT related topics.</p>	<p>Developing The Spark! PK-12 Engineering Education Outreach office "provides engineering education programming to pre-kindergarten through 12th grade (PK-12) students and families as well as professional development opportunities to teachers, counselors, and school administrators." The Texas A&M Math Circle is an outreach activity that brings 5th-12th grade students into direct contact with mathematical professionals in an informal setting to work on interesting topics in mathematics.</p>

Indicator	No Evidence	Texas A&M
Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.	Institution has no record of credential programs, digital badging, or RA programs.	No Evidence
Indicator	Strong Evidence	Texas A&M
Existence of mentorship, post-doc, and faculty fellowship programs that could bring professionals active in PIT onto campus for an extended period.	Institution has numerous, ongoing, institutionally funded mentorship, post-doc and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.	Strong Evidence The Center for Teaching Excellence has an Academy for Future Faculty , described as: “The Academy for Future Faculty Teaching Certificate Program (AFF) provides professional development for graduate students and post-docs in preparation for a career in higher education. AFF offers a two-semester program anchored by faculty mentorship and featuring weekly seminars and workshops.”
Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.		Unclear
School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.	The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.	Strong Evidence

APPENDIX S: TEXAS STATE UNIVERSITY

Indicator	Strong Evidence	Texas State
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence Texas State University has a robust STEM program that covers all of the traditional fields. Some PIT related courses include: TECH 3322. Development of Technology: “The role of technology in the development of Western World culture is studied from a technical perspective. Social repercussions resulting from the introduction of foundational technical developments are reviewed. Examples of technical areas examined are agriculture, transportation, manufacturing, engineering, defense, and communications. Readings focus discussions and papers on specific topics and encourage synthesis level understanding;” and, TECH 5385. Readings in Technology: “A study of the ethical and moral viewpoints typically associated with American society as related to the development and introduction of new technology and engineering. Past, present, and future issues will be studied with selected readings focusing on industrial related problems and issues;” and, Latinas/Latinos in the Media: “The course focuses on demographic developments related to Latinos in the US; their portrayals in the media; the effects those portrayals; the history and current status of selected Latino-oriented media and ancillary media companies and organizations; and the role of the media in Latino politics;” and, Women and Minorities in the Media: “Analysis of the images of women and minorities in the media and their status as media professionals. Includes study of the alternative media.”</p> <p>In addition, the university also offers a B.S. in Digital Media Innovation with courses that explore: “concepts relevant to the digital age. Topics may include digital media history, ethics, law and will address online privacy, security, crime, identity and censorship.”</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>		<p>Unclear Texas State has a large faculty, many of whom are at the Ph.D. level, but it is not clear from the website who are the stand-out faculty in PIT aligned fields.</p>

Indicator	Strong Evidence	Texas State
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence The major in Communications Studies offers a concentration in Persuasion, Advocacy and Civic Engagement which is “designed for those interested in using public messages to create social and political change, and explains how messages in popular culture influence, reinforce, and legitimize beliefs, values, and roles.” Courses include: Race, Rhetoric and Memory, Public Advocacy and Civic Engagement, Media Criticism, Environmental Communication and Sustainability. Public Advocacy and Civic Engagement is described as: “This course provides a theoretical foundation to understand the fundamentals of public deliberation, the individual's role in advocacy, and civic engagement in a democratic society. Sample topics include practices of engagement and inquiry, communication ethics, free expression and the responsibility of advocates.”</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence STEM for All which is “a public/private initiative that combines a workforce research initiative with a well-integrated portfolio of STEM engagement and educator professional development opportunities for learners of all ages in the Texas 31st Congressional District.” According to the LBI website: “A robust technologically literate society is a prerequisite for the United States to meet its needs for future scientists and engineers.... STEM-for-All is committed to helping citizens of all ages think about themselves as science learners and perceive themselves as someone who knows about, uses, and sometimes contributes to science.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence Texas State University houses the LBJ Institute for STEM Education and Research whose mission is to “to increase the participation and success of diverse communities of educator and students.” “With more than \$20 million in funding from agencies such as NASA, NSF and the United States department of Education. The Institute offers extensive professional development for teachers and professors, and conduct scholarly research.”</p>

Indicator	Strong Evidence	Texas State
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>All students must take an interdisciplinary ethics or social justice course regardless of their major. The required course has clearly mapped learning objectives and standards around issues of systemic equity, opportunity and access, power and privilege, global cultures, and critical race theory.</p>	<p>Strong Evidence</p> <p>Texas State offers elective courses in: Philosophy, Nonviolence, Sustainability and Social Change; and Technology and Society, described as: “The subject of this course is the relationship between technologies and social institutions. Topics covered may include but are not limited to theories of sociotechnical change, diffusion, social constructivism, modernity and rationalism, and case studies of transformative technologies such as the clock, the car, and the birth control pill.</p> <p>The university also offers a B.S. in Digital Media Innovation with courses that explore: “concepts relevant to the digital age. Topics may include digital media history, ethics, law and will address online privacy, security, crime, identity and censorship.”</p>
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>LBJ Institute for STEM Education supports interdisciplinary activities including “faculty interdisciplinary and collaborative teaching, research and service activities, bringing together professionals from the sciences, technology, engineering, mathematics and education to share expertise and knowledge from their fields.” It seeks to “provide professional development to better prepare K–12 teachers and university faculty in the crucial STEM areas of inquiry, active learning, project-based and problem-based learning, integrated technology and integrated subjects.”</p>

Indicator	Strong Evidence	Texas State
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence Texas State has an interdisciplinary minor in Value Studies which “allows a student with special interests in value theory to pursue a course of study, which culminates in an independent research project in value studies. This project may be a study of a theoretical issue in value studies or something of an applied nature; students may affiliate with people in various work environments or service-learning settings to identify value conflicts and suggest resolutions.”</p> <p>Texas State University also offers a Minor in Sustainability Studies, an interdisciplinary STEM program that is described as: “Sustainability Studies examines the human dimensions of the environment and sustainability in an interdisciplinary context. The program goals include providing students with an opportunity to explore the connections between social and physical systems, developing skills consistent with critical analysis and interdisciplinary knowledge for students who seek careers in sustainability, and a mechanism for students to learn about sustainability and to apply that knowledge to real-world problems.” Required courses include: Environmental Ethics and Society and Environment. Electives include: Social Change, and Technology and Society, described as: “The subject of this course is the relationship between technologies and social institutions. Topics covered may include but are not limited to theories of sociotechnical change, diffusion, social constructivism, modernity and rationalism, and case studies of transformative technologies such as the clock, the car, and the birth control pill.</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence Texas State has a large number of articulation agreements with local community colleges in a diverse number of academic disciplines.</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	Strong Evidence	Texas State
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence The Vice President for Research, Scholarship and Creative Endeavors hosted an event: Good Systems: Public Interest Technology: What is it?: “This meeting is an opportunity to hear more about the emergent field of Public Interest Technology, one of this year’s Research Focus Areas for Good Systems. At the meeting, we will describe what public interest technologists do, and discuss whether you might already be one. If your research concerns social justice, the common good, or working with public data, this meetup is for you! We’ll get to know some leading public interest technology researchers on campus, discuss various activities we have planned for the year, and assess how public interest technology scholarship at UT could help you meet your goals.”</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>		<p>Unclear</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence Texas State STEM Engagement & Educator Professional Development Collaborative (NASA STEM EPDC), serves to give the university faculty member a place to learn about the latest developments in ways to access and use the many NASA resources in your teaching of future STEM teachers.</p>

Indicator	Strong Evidence	Texas State
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence</p> <p>Texas State has many student clubs, including a Data Analytics Club with the mission to explore the field of data analytics with the focus of facilitating students' growth into qualified professionals who are capable of solving real-world challenges.</p>
Indicator	Developing	Texas State
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has a demonstrated interest in developing high school outreach, mentoring and/or bridge programs (as demonstrated by grant applications and strategic planning documents), but these programs do not necessarily focus on PIT related topics.</p>	<p>Developing</p> <p>LBJ Institute for STEM Education provides summer engineering camps for children and youth.</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has experimented with at least one or two such programs and shows interest and commitment to supporting and developing these initiatives further, but they do not yet focus on PIT related topics.</p>	<p>Developing</p> <p>Texas State partners with NASA to offer Digital Badging on a wide variety of STEM topics.</p>

MINORITY SERVING INSTITUTIONS (MSIs) PUBLIC INTEREST TECHNOLOGY (PIT) MATURITY MODEL

Indicator	Strong Evidence	Texas State
Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.	Institution has numerous, ongoing, institutionally funded mentorship, post-doc and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.	<p>Strong Evidence</p> <p>Texas State University has joined with the Peace Corps as one of six new university partnerships in the Paul D. Coverdell Fellows Program. The MSW prepares students to serve as effective and ethical leaders for change in a diverse and dynamic society. It advances the purpose of social work, which is to promote personal and organizational well-being and to build a more just society.</p>
Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.		<p>Unclear</p>
School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.		<p>Unclear</p>

APPENDIX T: TEXAS WOMEN'S UNIVERSITY

Indicator	Developing	Texas Women's
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Robust STEM departments and degree programs, at least two or three of which are aligned with PIT.</p>	<p>Developing</p> <p>Most of Texas Women’s University STEM programs are located in the College of Health Sciences, although the University does have a number of programs directly related to technology, such as Cybersecurity, and Community Informatics, including a course on “Digital Trust and Privacy.” Texas Women’s University has also served as the host institution for an NSF award and Southwestern Collaborative to develop a transdisciplinary certificate program in Science, Society and Sustainability, which offers courses in Conversations in Community Sustainability and Building Sustainable Communities. The program is described as: “Sustainability can be defined as using resources to meet the needs of today without jeopardizing future generations from being able to do the same. However, different disciplines have different perceptions with regard to sustainable practices. The goal of the Certificate in Science, Society, and Sustainability is to integrate the principles and values of sustainable practices into all aspects of education and learning in order to enable our students to address the social, economic, cultural, and environmental problems facing the new millennium.”</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>		<p>Unclear</p>
Indicator	Strong Evidence	Texas Women's
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence</p> <p>The University appears to offers many courses with a social justice or public interest focus, especially around race, ethnic and gender studies, global issues and human rights. For example: Gender and Social Change: An Introduction to Multicultural-Women's Studies; Culture, Inequality, and Self; The Mexican American in Contemporary Society; U.S. Women of Colors; and Developing Societies.</p>

Indicator	Strong Evidence	Texas Women's
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence The Language, Knowledge, and Representation concentration focuses on the ways that humans produce, record, and transmit knowledge, with an emphasis on cultural, artistic, and historical perspectives. “Students will investigate methods for understanding “how one's place in the world both informs and limits one's knowledge” (AACU Global Learning Value Rubric) and how experiences and worldviews are shaped by systems of communication.</p> <p>As part of the Global Studies minor, students will complete an experiential capstone (“learn by doing”) project in one of the upper-division courses for their minor. Students will develop projects in collaboration with their instructors. Projects should be research-informed and should include both a reflection on the student’s learning and a public-facing component.” The University strongly encourages students to “present their work at the TWU Creative Arts & Research Symposium; other venues may include an undergraduate research conference, a film festival, a public performance, or a professional conference in the field.”</p> <p>In 2017, the Department of Chemistry and Biochemistry was recognized by the Association of American Colleges and Universities (AAC&U) as a model department for incorporating of civic engagement and social responsibility into our degree programs. They note that “Of the 23 departments highlighted in their journal peer review, ours was the only hard science department so recognized.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence The Center for Research Design and Analysis was designed to: elevate the quality and quantity of student and faculty research at Texas Woman’s University. “CRDA services are designed to increase faculty and student knowledge about the research process and data analysis for both qualitative and quantitative studies. “</p>

Indicator	Developing	Texas Women's
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primary an elective and is not required for all students in all majors.</p>	<p>Developing</p> <p>While there are a large number of courses that focus on social justice issues, there does not seem to be any required or gateway course.</p>
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>Evidence of interdisciplinary collaboration and co-teaching can be found in course descriptions and syllabi, and there is ample evidence of faculty with dual academic appointments in the same school (for example in History and Africana Studies, or in Education and Psychology). There is some evidence of faculty collaboration in research and grant writing, but the onus is primarily on the faculty.</p>	<p>Developing</p> <p>The University has a number of interdisciplinary degree programs, that suggest opportunities for faculty collaboration.</p>

Indicator	Strong Evidence	Texas Women's
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence</p> <p>Texas Women’s University has a number of interdisciplinary (and social justice oriented) degree programs, including a Multicultural Women’s and Gender Studies Minor, and Race and Ethnic Studies, described as: “The minor program in Race and Ethnic Studies aims to develop students’ understanding of the distribution of knowledge, access, privilege, and power among historically marginalized U.S. racial and ethnic minority groups. Specifically, the program will examine the experiences of such groups as Blacks/ African Americans, Asian Americans, Latinx/Hispanic Americans, and Native Americans as well as the meaning of such labels. Concepts such as white privilege, discrimination, implicit bias, ethnocentrism, tokenism, and immigration will be assessed. Students will explore race as a historical, cultural, and social construct, learn to discern global conceptions of race and ethnicity, and discuss barriers to the primary human right of racial/ethnic equality. This has become increasingly important as societies diversify and economies globalize. Individuals who complete the race and ethnic studies minor program will develop cultural humility essential for career success and civic engagement.”</p> <p>The University also offers a Global Studies Degree, with concentrations in Human Rights, Global Systems, and Language Knowledge and Representation.</p>
Indicator	No Evidence	Texas Women's
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>No such articulation agreements exist.</p>	<p>No Evidence</p>

Indicator	Developing	Texas Women's
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been at the helm of developing at least one innovative and/or interdisciplinary program and has expressed an intent to support future innovation including public interest work.</p>	<p>Developing</p> <p>Though there is no evidence of demonstrated buy-in from leaders, the University offers a large number of interdisciplinary, public interest, and community engaged opportunities.</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>		<p>Unclear</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>		<p>Unclear</p>

Indicator	Strong Evidence	Texas Women's
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence Texas Women’s University has an Experiential Students Scholars Program which allows students to engage in learning through the dynamic process of research where students can develop knowledge, skills, and values from direct experiences outside of a traditional academic setting. If approved, students will receive a \$1,000 stipend to conduct their research and have the opportunity to work with a TWU faculty or staff mentor of their choice. The program includes: Applied Research and Creative Activity – “Projects in this category are designed to utilize theoretical concepts in conjunction with primary and/or secondary data in developing solutions to real-world problems related to the student's discipline. Such projects make original contributions to the discipline by providing practical and actionable solutions to specific phenomenon, situation, or problem. (Example projects: creation of an artifact, program, or set of strategies that solve the identified problem).”</p>
Indicator	No Evidence	Texas Women's
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has no record of high school outreach, mentoring and/or bridge programs at all.</p>	<p>No Evidence</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p>

<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>		<p>Unclear</p>

APPENDIX U: UNIVERSITY OF BALTIMORE

Indicator	Strong Evidence	University of Baltimore
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence University of Baltimore has well-rounded STEM degree program, with traditional offerings in all of the major areas. In addition, the school has a degree program in Community Studies and Civic Engagement which includes a Service Learning Seminar, and a class called Community Organizations in a Digital World, described as: “Examines digital and online efforts of community organizations to build community leadership and civic engagement. Explores the ways in which information technologies have transformed and are transforming community organizations and how these technologies affect a range of social, political and economic issues from individual to organizational and societal levels. Focuses on how technological applications may provide more effective and efficient pathways for community organizations to communicate with their stakeholders and to reach their strategic goals, which include the use of social media.”</p> <p>The University also has a strong Computer Science/ Computer Networking and Technologies degree program, and Communications Program, which offers a number of PIT-aligned classes, including: Technology and History which includes selected topics in the cause-and-effect relationship of technological developments on societies in various historical periods; Technology in the Arts: “an exploration of ways that technology has shaped the arts throughout history, that artists have appropriated and responded to technology, that technology facilitates management of the arts and that emerging technologies continue to influence the arts;” Media Literacy: “an upper-level theory course that introduces students to a variety of ways of understanding the interactions between media and culture;” and, Hypermedia: “an introductory survey of the many types of hypermedia, multimedia and other means of nonlinear writing now available in fiction, education and business. Combines theory and hands-on experience in the reading and composition of hypermedia and Web sites. Students explore the position of this new technology/language in contemporary culture.”</p>

Indicator	Strong Evidence	University of Baltimore
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence In addition to what appears to be a large and strong STEM faculty, other programs in the university have renown scholars at the helm. One example is Eusebio Scornavacca the Parsons Professor of Digital Innovation and Director of the Center for Digital Communication, Commerce and Culture at University of Baltimore (UBalt). He also holds the J. & M. Thompson Chair in Management Information Systems at the Merrick School of Business. Professor Scornavacca is a global scholar with a strong research collaboration network across six continents. A sought-after speaker, he is frequently delivering keynotes and lectures around the world. His focus includes: Bridging the Digital Divide – fostering initiatives with high social impact in Baltimore and beyond in areas such as education, health, youth development, digital awareness and income generations.</p>
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence The University of Baltimore has a lot of DEI aligned courses, including: Race and Ethnic Relations; Gender Roles and Society; Social Awareness and Ethical Responsibility; Leadership for Social Change; Civil Liberties and the Bill of Rights; among many others.</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence Among their public interest aligned courses are Evaluation of Human Services Programs which “Provides students with a conceptual framework, sets of practical skills and related understandings about planning and evaluating human services programs in a range of settings. Programs are considered in a broad sense as a set of resources organized for a purpose, while a human service is considered as work or activity intended to benefit others”; Baltimore in the Media: “A study of the image of Baltimore through the lens of the media. Students analyze narrative and non-narrative films, television programs, books, short stories, websites, newspapers, magazines and blogs to gain a greater understanding of where they live and the city’s evolution from the eyes of those who record and promote its happenings;” and, Urban Solutions which: “Provides an introduction to the field of urban studies and to the practices of studying cities and metropolitan areas. Students are exposed to a variety of current and historic urban challenges as well as policy solutions. The course exposes students to the complexity of life in metropolitan regions, using the Baltimore area and other cities nationally and internationally as case studies.”</p>

Indicator	Strong Evidence	University of Baltimore
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence The University of Baltimore has a Center for Digital Communications, Commerce and Culture described as: “an interdisciplinary unit created to answer one question: How do we thrive in a period of profound digital disruption?” In addition: “The center acts as an interdisciplinary catalyst for impactful research, education and outreach activities that foster the development of digital competences and leadership as well as the responsible diffusion and advancement of digital innovations in our community.” According to the website: “One of the trademark activities of the center is the development of the Real-life Case Competition series. These are projects where UBalt students are set out to solve a specific problem presented by local companies.” The University also houses a Center on Applied Feminism with faculty affiliates from throughout the university.</p>
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>All students must take an interdisciplinary ethics or social justice course regardless of their major. The required course has clearly mapped learning objectives and standards around issues of systemic equity, opportunity and access, power and privilege, global cultures, and critical race theory.</p>	<p>Strong Evidence The University of Baltimore requires most students to take a First-Year Seminar: Introduction to University Learning which “Helps students to develop key skills, knowledge and habits of mind necessary for academic and professional success. In an active-learning environment, first-semester students and their instructors explore the nature and practice of intellectual inquiry in a university environment. Applied exercises reinforce core study/learning skills in the context of real-time demands, while structured self- and group reflection develops concurrent skills in personal, academic and professional goal-setting. Students become more intentional, lifelong learners, with skills in teamwork and critical thinking that can become fundamental elements of personal effectiveness in increasingly complex and globalized communities and work environments.”</p>

Indicator	Strong Evidence	University of Baltimore
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence Although more research needs to be done to identify these opportunities, one prominent example of a course that was co-taught was as a class on Baltimore history professor the University President, who used to be mayor of Baltimore.</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/ or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence University of Baltimore has an B.A. in Interdisciplinary Studies degree program with courses such as: Introduction to Information Literacy: “This course teaches students how to define their information needs, search for information effectively, make logical arguments, understand the different forms information can take, critically assess information they find and present data in an appropriate way. In addition, it provides students with the skills necessary to evaluate the kinds of opinion and argumentation they encounter outside the University.”</p> <p>One student testimony about the program included: “UBalt’s Interdisciplinary Studies program allowed me to explore key issues in the gaming industry in unique ways that went beyond the school’s game design program alone. By combining game design, history and psychology, I was able to create a degree program that explored game studies, video game preservation and the use of gaming tech in therapeutic practices. This has allowed me to not only be a more conscientious game designer and storyteller, but also utilize games in educational settings, as I pursue a career in education.”</p>

Indicator	Strong Evidence	University of Baltimore
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence</p> <p>The University has a strong record of articulation agreements with a range of community colleges and in a large number of different disciplines, including Digital Media Production.</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence</p> <p>Examples throughout this rubric suggest that University of Baltimore has a strong buy-in from leadership around community, DEI, public interest, and interdisciplinary work. The University has a public document that outlines its leadership in DEI, called: Institutional Programs of Cultural Diversity: Annual Progress Report.</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence</p> <p>Part of The University of Baltimore’s Strategic Plan is to “Promote campus culture of interdisciplinary collaboration and research” to “Promote faculty, staff and student engagement in tackling critical issues facing Baltimore and the region” and “Support life-long community engagement for the UB community.”</p>

<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>		<p>Unclear</p> <p>Although there was not a lot on the website about faculty professional development, other areas of this rubric suggest that it is a strong priority, especially the number of unique programs and courses that the university has supported.</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>University of Baltimore</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence</p> <p>The University offers a large number of student clubs, organizations and opportunities, including many that have a community focus, such as the Alternative Breaks program where “Students in our Alternative Spring Break program visit sites in Baltimore or other locations to explore service opportunities, build relationships, and deepen their understanding of communities.”</p>
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>		<p>Unclear</p>

Indicator	No Evidence	University of Baltimore
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has no record of credential programs, digital badging, or RA programs.</p>	<p>No Evidence</p>
Indicator	Strong Evidence	University of Baltimore
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>	<p>Institution has numerous, ongoing, institutionally funded mentorship, post-doc and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.</p>	<p>Strong Evidence University of Baltimore’s Center for Digital Communications welcomes Fellows from around the world, such as: Marco Savastano, a doctoral candidate from the University of Rome (Sapienza) and a researcher in the growing field of digital technologies: "His work will contribute to our center's fundamental role, which is to act as an interdisciplinary catalyst for activities related to digital innovation at the University. Our activities aim to foster the development of digital competences and leadership in our community as well as the diffusion and advancement of digital innovations. Basically, in the new digital ecosystem, we are determined to help create the connective tissue that can drive innovation and create entrepreneurial as well as job opportunities." The University of Baltimore also has an Entrepreneurs Fellowship Program which: “balances classroom theory with periods of practical, hands-on experience, prior to graduation. Through the Fellows Program, students are able to engage in an alternative academic study—gaining practical experience by working side-by-side with expert entrepreneurs and faculty.”</p>

Indicator	Strong Evidence	University of Baltimore
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>	<p>Institution has a strong presence in academic conferences and journals, as well as the existence of blogs, op-eds, infographics, and research reports, wherein they seek to make faculty research, programs, and evaluations as public and accessible as possible. Institution has a section of their website devoted to public interest related courses, programs, scholarship, research, and community service.</p>	<p>Strong Evidence</p> <p>As noted elsewhere, The University of Baltimore has a public document that outlines its leadership in DEI, called: Institutional Programs of Cultural Diversity: Annual Progress Report.</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>	<p>Strong Evidence</p> <p>President, Joshua Clark Davis, used to be the Mayor of Baltimore and co-teaches a class on Baltimore History.</p>

APPENDIX V: UNIVERSITY OF CENTRAL FLORIDA (UCF)

Indicator	Strong Evidence	UCF
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence UCF has a robust STEM program, offering undergraduate and graduate degrees in most STEM disciplines. With regard to PIT, UCF has a undergraduate major in Communication and Conflict as well as degrees in Data Science and Digital Media. Another revelant degree program is Human Communication which has a track in Social Innovation and Activism among other possible concentrations.</p> <p>UCF offers a yearly symposium which is described as a “fusion of humanities questions with critical examination and playful exploration of the potential of technology.” In 2020 the theme was Hypertext for the Social Good.</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>		<p>Unclear</p>
Indicator	Strong Evidence	UCF
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence UCF has an entire page on it’s website describing the range of social justice oriented courses it offers across campus disciplines. These include: African Diaspora: Theories and Movements; Race Matters An Anthropological Approach to Racism; Psychology of Prejudice; Social Power and Inequity; Crime and the Media; Image Culture and Society: Intercultural Communication; and Writing for Social Change, among others.</p>

Indicator	Strong Evidence	UCF
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence UCF's LEARN™ (a National Science Foundation TUES program) “was established in 2011, creating a small research community for 28 first-year STEM students. The program is run by the UCF Office of Undergraduate Research in collaboration with Housing and Residence Life. LEARN is the only formal first-year hands-on research experience opportunity on campus. The benefits of this living-learning community include: student and faculty mentors, 12-week research apprenticeships, specialized courses in students’ resident halls, personalized academic advising, and scholarships.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence The website states that “At UCF we value our research and its key role in economic development and national competitiveness.” UCF has the Center for Initiatives in STEM (iSTEM) which was “created with a core mission to promote and enhance collaborative efforts on STEM education and educational research, primarily for the College of Engineering and Computer Science (CECS) and College of Sciences (COS). Over the years, iSTEM has expanded its mission to further serve the university, incorporating the Colleges of Medicine (COM), Optics and Photonics (COP) and Community Innovation and Education (CCIE) into the collaboration and the greater educational community in regards to STEM initiatives.”</p>
Indicator	Developing	UCF
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primary an elective and is not required for all students in all majors.</p>	<p>Developing As previously noted, UCF has an entire page on it’s website describing the range of social justice oriented courses although none of these courses appear to be required across disciplines.</p>

Indicator	Strong Evidence	UCF
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence The Center for Initiatives in STEM (iSTEM) was partially created to support “undergraduate student success, K-12 outreach and Faculty Collaboration.” Through the Center faculty can served as Faculty Fellows and iSTEM Affiliates.</p>
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/ or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence UCF has a interdisciplinary degree program which includes a Diversity Studies Leadership Track described as: “The Bachelor of Arts in Interdisciplinary Studies – Diversity Studies Track is a broadly based interdisciplinary curriculum. The degree's interdisciplinary nature provides students with tools that can be applied across a spectrum of science, social behavior, and humanities, while foregrounding the importance of analyses with a focus on diversity and inclusion in such categories as race, ethnicity, gender, sexuality, religion, and ability. Students pursuing a career in social justice or advocacy work, involvement in international nonprofit organizations or diverse research and journalistic careers, as well as those seeking preparation for graduate study in related areas will enjoy the flexibility of this program.”</p>

Indicator	Strong Evidence	UCF
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence UCF has a large number of articulation agreements with state and community colleges as well as dual enrollment programs. “UCF is committed to student access and success through articulation agreements with K-12, two-year and four-year institutions to ensure seamless transfer of academic credit for students that we serve.”</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence The office of VP for Diversity, Equity and Inclusion houses the Ginsburg Center for Inclusion and Community Engagement which “strives to make diversity and inclusion visible and critical elements that indelibly permeate the life and values of the UCF community. We offer education, training and support services, facilitation of cross-campus collaboration, and enterprise-wide leadership to the campus and our community to build an inclusive culture for all students, faculty and staff.”</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence The website notes that “as UCF becomes more inclusive and diverse, our mission is to synergize with community partners to become the model for delivering interdisciplinary, culturally competent, and patient-centered care to underserved communities. We harness a team of interprofessional faculty and students designed to provide accessible and affordable interdisciplinary health care services to the underserved population of Central Florida and abroad.”</p>

Indicator	Strong Evidence	UCF
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence UCF has an impressive number of professional development programs for faculty including peer learning communities such as the BIPOC and First Generation Assistant Professor Mentoring Community described as: “This community will support tenure-earning faculty as they work to achieve tenure. As first-generation faculty, there is no predefined path, and navigating academia can be intimidating and lonely. The literature shows both BIPOC (black, indigenous and people of color) and first-generation faculty can often fall through the cracks and may have difficulty earning tenure. Additionally, many first-generation faculty are also people of color. Dr. Reshawna Chapple will lead this cohort to help you define your research and teaching, navigate expectations and connect you with other faculty members across campus.</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence UCF has a large number of STEM related student initiatives and clubs, such as Girls EXCELLing in Math and Science (GEMS) – “a peer-to-peer mentoring program designed for EXCEL freshmen. In addition to the EXCEL experiences, activities include peer mentee groups, an upper-division mentor to 4-5 mentees, networking events featuring successful female faculty and industry professionals, large social events, and multiple mentee group meetings and socials. Running since 2010, GEMS has decreased the gender retention gap in EXCEL by 60% while increasing the retention for both groups.”</p> <p>COMPASS (Convincing Outstanding Math-Potential Admits to Succeed in STEM), a National Science Foundation STEP Type 1B Program, is "for students who are unsure of which major or career to pursue in college but want a head start exploring career options, including those in Science, Technology, Engineering and Mathematics (STEM). Students who enjoy math or science and are interested in exploring STEM careers through hands-on learning experiences are a perfect fit. Whether students are undeclared, have declared a major they are unsure about, or have recently declared a STEM major and are looking for guidance, COMPASS can assist. Recruiting 100 students each year, COMPASS connects students, faculty, and disciplines, through a Learning Community which ultimately leads to increased success of STEM students."</p>

Indicator	Strong Evidence	UCF
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence The PRIME STEM Project/Student Support Services “is designed to increase the college retention and graduation rates of its participants and to assist students make the transition from one level of higher education to the next. Short for, Purpose + Reach = Individuals Measured for Excellence (PRIME), PRIME STEM is tailored to meet the needs of 124 students who are pursuing and will be graduating in 6 specific STEM majors: Biology, Biomedical Sciences, Computer Science, Engineering, Health Sciences and Information Technology. PRIME STEM recruits students with SAT math scores of 470-610 or ACT scores of 17-25 and who are first generation in college students, who have a demonstrated financial need and/or those who have a documented disability.”</p> <p>STEM Outreach Day is a free event for all grade levels with a wide variety of engaging activities designed for K-12 students.</p> <p>STEM Ambassadors are “current undergraduate and graduate students at UCF who, in collaboration with the Center for Initiatives in STEM (iSTEM), function as liaisons between UCF science, technology, engineering and math programs and the greater Central Florida community.”</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has many such opportunities, and has robust and active partnerships with employers, non-profits, funders, or government agencies who support these programs and whose mission is aligned with PIT.</p>	<p>Strong Evidence UCF has an apprenticeship program in solar energy as well as many digital badges offered through its School of Continuing Education. All the digital badges are in technology related subjects such as Cybersecurity, Digital Marketing, and Data Analytics.</p>

Indicator	Strong Evidence	UCF
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>	<p>Institution has numerous, ongoing, institutionally funded mentorship, post-doc and faculty fellowship programs, which are well advertised and compensated, and are flexible enough to include PIT-related topics and professionals.</p>	<p>Strong Evidence UCF has a Postdoctoral Fellows Program including Faculty Fellows for Inclusive Excellence, described as: “One of the five pillars of UCF’s Institutionalization of our Collective Impact Strategic Plan is our promise to recruit, cultivate, and retain exceptional and diverse faculty, students, and staff. Achieving these goals will require the engagement and support of the entire UCF community as we continue to cultivate an environment of belonging. The active participation of faculty members will be especially vital in achieving these goals. Faculty Excellence is seeking an additional Faculty Fellow for Inclusive Excellence, who demonstrates a strong commitment to equity and inclusion, beginning in August 2021. The Fellow will co-lead the development and implementation of inclusive excellence initiatives with the current faculty fellow and under the direction of the Provost and Vice President for Academic Affairs, and the Vice Provost for Faculty Excellence. Faculty Excellence will transfer to the Fellows’ home unit up to \$10,000 per academic year for course replacement costs. It is expected that a Fellow with teaching assignments will be released in whole or part from their instructional duties. If the fellow has a summer appointment they will also receive a \$5,000 administrative assignment.”</p> <p>UCF also has a number of mentorship programs, including a program designed to increase diversity in the medical profession. Recently, the University held a faculty symposium on creating effective mentorship programs.</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>

<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>		<p>Unclear</p>
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APPENDIX W: UNIVERSITY OF MINNESOTA – TWIN CITIES

Indicator	Strong Evidence	University of Minnesota
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence The school has a robust STEM program with traditional offerings, as well as an undergraduate and graduate degree program in Learning Technologies, described as: “Become a digital-savvy leader in your career field. As new online and mobile technologies are being added to our lives every day, they are transforming the way we communicate, collaborate, create, and learn. Gain mastery in the productive use of these tools to become a responsible and skilled leader in digital communication, creation, and learning.”</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence Professors Gillian Roehrig and Keisha Varma are leading an initiative to increase diversity in the STEM fields as part of a \$26 million National Science Foundation grant awarded to the University. Professor Dongyeop Kang who joined the computer science department in 2021 brings a focus and expertise in natural language processing (NLP), which will complement the current CS&E faculty in the robotics and artificial intelligence research area. Specifically, he is interested in human-centered language technologies, and his research is focused on developing interdisciplinary methods for NLP models and building interactive NLP systems.</p>
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence The University has a degree program in Racial Justice in Urban Schooling designed “for students interested in the intersections of race, social class, language status, gender or sexual orientation, and how those impact educational equity and social justice. Students learn to recognize educational practices that marginalize students who are diverse in terms of their race, class, language or gender status, and how to support educational equity through alternative approaches. Students will reimagine teaching materials and techniques that hold the possibility for a more equitable and just society.”</p> <p>The University also has an undergraduate minor in Social Justice: Learn how to question critically, discover how to be an activist, and work to transform the world....We believe in equity and fairness in every aspect of the human experience, recognizing struggles for liberation, and social movements of many people globally.</p>

Indicator	Strong Evidence	University of Minnesota
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence The University has an entire webpage devoted to Leadership and Civic Engagement with a wide array of resources – articles, podcasts and videos – to help strengthen leadership skills and community engagement. The site includes links to: Building Civic Engagement, Public Engagement Strategies, and Navigating Conflict.</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence The University of MN has a STEM Education Center with a primary focus of: STEM Integration is the merging of the disciplines of science, technology, engineering, and mathematics in order to: deepen student understanding of each discipline by contextualizing concepts, broaden student understanding of STEM disciplines through exposure to socially and culturally relevant STEM contexts, and increase interest in STEM disciplines to broaden the pipeline of students entering the STEM fields.</p> <p>The University also houses an Inventory of Statewide and Regional STEM Networks: “Across the United States, thousands of activities related to the advancement of STEM education, often in service to the development of a skilled STEM workforce and, ultimately, economic development, happen each and every day. While inventories of these enterprises have been conducted in the past, the focus of these inventories has been limited to specific audiences (e.g., university or industry driven networks), or a narrow set of variables. In short, the purpose of this effort is to develop a resource that analyzes the elements of existing networks, articulates the considerations for the development of a network, or summarizes the relative successes and challenges regarding development, maintenance, or sustainability, hence, avoiding inefficiencies in time, potential missed information, and missed opportunities to create potential effective partnerships.”</p>

Indicator	Developing	University of Minnesota
<p>Institution offers an ethics or social justice course as a required/gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primary an elective and is not required for all students in all majors.</p>	<p>Developing</p> <p>School offers the Gopher Equity Project a diversity, equity, and inclusion initiative for undergraduate students on the Twin Cities campus. Students can participate by taking the online training, join or host discussion groups, and continue to learn - starting with the curated list of resources on the website. It also offers and Equity and Diversity Certificate Program.</p>
Indicator	Strong Evidence	University of Minnesota
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>The University of Minnesota-Twin Cities houses the Hubert Humphrey School of Public Affairs which has several Research Centers related to PIT including: 1) The Center for Integrative Leadership: “The Center for Integrative Leadership at the University of Minnesota seeks to catalyze, support and inform collaborative action to address significant and solvable societal challenges. We represent the commitment of the University's policy, business, public health, education, and law schools to shared leadership for public good.” 2) Center for Science, Technology and Social Policy: “The Center for Science, Technology, and Environmental Policy fosters interdisciplinary and community-engaged research on human well-being, environmental sustainability, and social justice in a complex and diverse world.” 3) The Future Services Institute: “The Future Services Institute's mission is to advance human services into the 21st century. We believe in creating and nurturing excellence in leadership and management in various ways: through innovation, leadership development, and evaluation and research.”</p>

Indicator	Strong Evidence	University of Minnesota
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence</p> <p>The university offers an Interdisciplinary Ph.D. program in Culture and Teaching described as: a politically committed program dedicated to critical issues related to equity, democracy, and social justice in education. Students engage in a variety of perspectives and methods in their study of education and schooling across broad social, cultural, and political contexts. Graduates are poised to assume faculty positions in higher education as well as leadership roles in local, national, and international organizations.</p> <p>It also offers an undergraduate minor in Family Social Science, described as: A minor in Family Social Science will deepen your understanding of parents, children, and couples in today’s complex family systems. Focused on the fundamental building block of society – the family – an FSoS minor complements any career that touches those systems, from business to political science to medicine, law, and more. The program includes opportunities for students to work directly with families in community settings.</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>		<p>Unclear*</p> <p>* Website mentions articulation agreements, but it is unclear to what extent they are available.</p>
Indicator	Strong Evidence	University of Minnesota
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence</p> <p>In addition the community-based and interdisciplinary programs described in other parts of this rubric, The Department of Computer Science and Engineering just revamped their mission statement to read: “Our mission is to serve the community by delivering the benefits of computing through conducting innovative research and educating tomorrow’s leaders.”</p>

Indicator	Strong Evidence	University of Minnesota
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence The University gives out an Outstanding Community Service Award described as: the highest honor the university gives to a staff member for service to the community. The award recognizes the significant contributions made to the community, including building University-community partnerships and programs that benefit our students, faculty, staff, and community partners.</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence In addition to the other initiatives mentioned throughout this rubric, the University is a member of the National Center for Faculty Development and Diversity a nationally recognized center dedicated to helping faculty, post-docs, and graduate students make successful transitions throughout their academic careers. They provide professional development and mentoring through a host of resources that are applicable across all fields of inquiry.</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence The University has over nine student clubs with a focus on STEM and equity issues.</p>

Indicator	Strong Evidence	University of Minnesota
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence University offers an unusually large number of K-12 outreach programs, including a summer camp program for high school juniors and seniors: During this three-day, interactive virtual conference, participants will network with peers while learning about current topics in research and academic programs, and will explore potential careers through virtual presentations, laboratory tours, science and technology demonstrations, and question and answer sessions” and Girls Inc. EUREKA! a five-year summer and school year program for girls focused on science, technology, engineering, and mathematics. Eureka! builds sisterhood with girls from all over the Twin Cities, exploring their career interests and dreams while supporting them through high school graduation and preparing them for the next step in their post-secondary education.</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has many such opportunities, and has robust and active partnerships with employers, non-profits, funders, or government agencies who support these programs and whose mission is aligned with PIT.</p>	<p>Strong Evidence The University offers a Digital Accessibility Badging Program where "participants will learn how to apply accessibility concepts to content, interactions, and assessments in an online course site.</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear* *The existence of so many community-centered initiatives and programs suggests that the university is open to data sharing. On the website “Does Your Community Need New Leaders? Try Knocking on Some New Doors.” there is a section on Ideas from Communities that includes suggestions “gleaned from the work of our educators and partners — for growing new local leadership.”</p>

Indicator	Strong Evidence	University of Minnesota
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>	<p>Strong Evidence</p>

APPENDIX X: UNIVERSITY OF NEW MEXICO (UNM)

Indicator	Strong Evidence	UNM
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence UNM has an expansive definition of STEM, which includes many different departments across the University including the Business School, College of Education, Health Sciences, School of Engineering, Social Sciences and many others. Some of the courses they offer that are aligned with PIT include Technology in Society described as: "an introduction to the ways in which technology shapes the world—and is itself shaped by society, culture, politics, economics and history. Topics include industrialization, technological changes, cultural impact, environmental policies and social and ethical responsibilities;" and Technology, Commercialization and the Global Environment described as: "Fundamentals of technology commercialization and international management are covered along with the interconnectivity of the two topics. The course will cover the nature of international competitive markets and how technology commercialization impacts these markets."</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence Twelve faculty members at The University of New Mexico have been selected for the 2022 Women in STEM awards. "AGEP to Engage Leaders to Improve Diversity among STEM Faculty" is a two-year, \$195,000 project led by principal investigator Mala Htun, a professor of political science, along with Liz Godwin, a research associate professor in the Department of Electrical and Computer Engineering and a 2021-22 UNM Inclusive Excellence Postdoctoral and Visiting Scholar; and Jesse Alemán, a professor in the Department of English Language and Literature and the associate dean of Graduate Studies and special assistant for equity and excellence in graduate education in the College of Arts and Sciences. In the School of Public Administration Professor Roli Varma was awarded an NSF grant in the Science, Technology, and Society Program through 2019 for a total of \$217,155.</p>
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence UNM offers an undergraduate and graduate certificate in Race and Social Justice where students can choose from over 100 courses including Foundations in Critical Race Theory, Environment and Social Justice, Navajo Expressive Culture, Chicano Latin Film, Intercultural Communication, Multiculturalism, Gender and Media, Anti-Racist Education, Communicating Community, Social Determinants of Multicultural Health, The Politics of Identity, Queer Theories, Feminism in Action and many others.</p>

Indicator	Strong Evidence	UNM
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence UNM course Project in Technology Commercialization is described as: “An environment for application of tools and techniques of technology management that offers real problems of managing a technology-based product. Considers effects of practical constraints upon the analysis, design and process, and focuses student’s capabilities on the solution of a practical problem and presentation of the solution.”</p> <p>UNM also offers a course Entrepreneurial Finance in High Technology described as: “Theory as contributed to the study of strategic alliances by numerous disciplines including economics, finance, business policy, strategic management and law. Includes the development of an original case study of one technology-based strategic alliance.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence UNM hosts a STEM Collaborative to increase the number of students who graduate with STEM degrees and to support STEM students’ academic success and career exploration by connecting students to UNM's stellar STEM faculty and research laboratories.</p> <p>UNM also has a STEM-H Resource Center which includes a speaker series: The Center has a diverse portfolio of dynamic, signature regional pre-college STEM competitions, professional development training, resource-rich websites, & equipment/curricula reaching thousands of students/educators annually.</p> <p>The website also hosts a Science, Technology, and Culture Resources page with a large number of links to research, scholars in the field, courses, etc.</p>

Indicator	Developing	UNM
<p>Institution offers an ethics or social justice course as a required/ gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primary an elective and is not required for all students in all majors.</p>	<p>Developing</p> <p>There is no required course, however, the course catalogue has an exceeding large number of options for undergraduate and graduate courses on social justice, many of which are housed under the umbrella Race and Social Justice.</p>
Indicator	Strong Evidence	UNM
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>The Institute for the Study of Race and Social Justice “seeks to create an institutional archive/academic genealogy/timeline of race and social justice course offerings across departments and academic units that will be deposited in the UNM Digital Repository for posterity.</p> <p>Provide support and resources for instructors interested in strengthening multidisciplinary race and social justice studies for undergrad and graduate students in their own departments/programs.”</p>

Indicator	Strong Evidence	UNM
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence The University of New Mexico houses The University College whose mission is to: “provide collaborative opportunities for integrative learning that foster personal, academic and professional excellence. University College does this by delivering academically rich undergraduate programs that cross departmental and college boundaries. University College supports incoming students and provides an administrative structure for important interdisciplinary programs.”</p> <p>Within the College they offer a Liberal Arts and Integrative Studies Degree which “is ideal for students with academic and career aspirations that require study across multiple academic subjects. Since each student has the responsibility for the quality of his or her education, the successful LAIS student will be one who can develop a challenging plan of study and stick to it. Historically, this program has attracted many students who feel restricted by the specialized nature of traditional degree programs and want to combine two, three or more academic disciplines. Other students, particularly those returning to the university after years away, or those with full-time jobs, choose this degree because it has more flexibility to combine courses into themed concentrations. It is self-designed by each student to meet very specific academic or career goals.”</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence In addition to a number of articulation agreements in all subjects, UNM has a special program called STEM-UP which is designed to support the transfer of students from Central New Mexico Community College: The transfer center will offer STEM specific academic advising, individualized tutoring, workshops, peer mentoring, transfer assistance, and degree and STEM career information. This new center will support the pathway between CNM and UNM and will help students transferring to UNM.</p>

Indicator	Strong Evidence	UNM
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence The University of New Mexico is one of the 119 U.S. colleges and universities to receive the 2020 Carnegie Community Engagement Classification, which is “an elective designation that indicates institutional commitment to community engagement.” “I’m so proud that the Carnegie Foundation has awarded UNM this prestigious designation,” said University of New Mexico President Garnett S. Stokes. “Our leadership, faculty, and staff strive to ensure that we are truly the University for New Mexico, actively embracing and engaging with communities across the state to take on challenges facing us locally and globally. The Community Engagement Classification by Carnegie recognizes that our efforts are indeed changing lives in communities across our state—and around the world.”</p>
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence UNM hosts a Community Engagement Center which has “a mission of Anti-racist leadership development for community capacity building,” and a vision to “nurture a diverse leadership of the next generation of civically minded youth at UNM and CNM from local neighborhoods for community capacity building.” The Community Engagement Center (CEC) was formed in 1997 by faculty, staff, students, and community members who wanted to better utilize university and community assets to meet community identified needs through education, community engagement and leadership development. CEC serves as a university-based intermediary with communities to implement community goals.</p> <p>UNM also offers a class Introduction to Civic and Community Engagement: “This introductory course covers concepts for understanding civic engagement, including models of civic life through America’s history, critiques of philanthropy, volunteerism, community service, public service, political activism, and public service leadership.”</p>

Indicator	Strong Evidence	UNM
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence UNM has a large number of student organizations, particularly in STEM areas. These include: Advancing Women in Science; American Indian Science; and Engineering Society, Society for the Advancement of Chicanos and Native Americans in Science.</p> <p>The I AM STEM Award: recognizes University of New Mexico undergraduate students for their exceptional campus and community engagement, commitment to personal success, as well as their essential contributions towards strengthening our STEM and research communities at The University of New Mexico.</p>
<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence UNM has many K-12 outreach programs, including: K-12 STEM and Valencia Student Outreach which is “designed to generate interest in STEM-H through hands-on learning activities led by faculty and college students. As a means to connect K-12 students to college students, UNM-Valencia students serve as hosts, tour guides and participants at all STEM-H events to build their service and leadership capacity.”</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has many such opportunities, and has robust and active partnerships with employers, non-profits, funders, or government agencies who support these programs and whose mission is aligned with PIT.</p>	<p>Strong Evidence UNM has a number of digital badging programs, including in the Dept. of Chemical and Biological Engineering: “The digital badging program helps students connect what they are learning in classes to real world practices and allows students ownership of their accomplishments by sharing their work on-line. The program also allows students to easily display the outcome of their work to potential employers and graduate schools.”</p>

<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>UNM</p>
<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>	<p>Institution has a strong presence in academic conferences and journals, as well as the existence of blogs, op-eds, infographics, and research reports, wherein they seek to make faculty research, programs, and evaluations as public and accessible as possible. Institution has a section of their website devoted to public interest related courses, programs, scholarship, research, and community service.</p>	<p>Strong Evidence UNM has a website called STEM Benchmarking Data with links to data and reports. It is described as: “How is UNM doing in its efforts to improve STEM education for all undergraduate students? The answer to this question can best be assessed through impact data. For instance, are STEM student retention rates and graduation rates improving? Are fewer STEM students dropping out of UNM, or switching majors out of STEM fields? The benchmarking reports below will be updated annually and provide a longitudinal glimpse of UNM’s STEM undergraduate education performance. This data may be especially useful to faculty and staff who are seeking grant funding to improve STEM education at UNM.”</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>	<p>Strong Evidence</p>

APPENDIX Y: UNIVERSITY OF TEXAS AT SAN ANTONIO (UTSA)

Indicator	Strong Evidence	UTSA
<p>Institution has strong, well-endowed, and diverse STEM departments and degree programs, with an expressed focus PIT aligned disciplines, such as cybersecurity, information technology, data analytics, engineering, and communications technology.</p>	<p>Institution is nationally known and well-regarded in the field for its STEM departments and programming, serving as a national innovator, hub, and driver of new courses, degree programs and research. Institutions offers multiple degree programs and majors in PIT aligned fields and/or options for students to dual major or design their own concentration in PIT.</p>	<p>Strong Evidence UTSA has a robust STEM program, including degrees in cybersecurity, information technology, data analytics and geoinformatics, intelligence studies, public administration and policy, and technology entrepreneurship and management. Programs specifically aligned with PIT include: B.A. in Digital Communications described as: “In accordance with the University's mission to "contribute to the technological, economic and cultural development of the city and region," the curriculum emphasizes communication practices in a multicultural and multiethnic metropolitan setting. A specific goal of the program is to train minority students for professional opportunities in communication. The objective is a degree program of high quality which serves the professional aspirations of UTSA students as well as the economic needs of San Antonio and South Texas.”</p> <p>The school also has a B.A. in Health Communication, described as “A concentration in Health Communication offers students the opportunity to gain specialized knowledge about the ways that individuals, organizations, and societies communicate about health. Topics in this concentration touch on a multitude of areas from provider-patient interaction to the role of the media in health communication to global public health.”</p> <p>UTSA also offers a degree in multidisciplinary degree in Applied Data Science, which trains students in one of three domains: cyber intelligence, digital humanities or political science. degree allows the ability to blend,</p>
<p>Institutional STEM departments are staffed by a majority of senior, tenured, and/or endowed faculty who have a national presence and influence.</p>	<p>STEM departments are staffed primarily by tenured or endowed faculty who are highly productive in their field, as evidenced through grants, research, publications, committee chairpersonship, and national awards.</p>	<p>Strong Evidence UTSA professors Johnelle Sparks and Saadet Toker Beeson have been named fellows in the fourth cohort of the iAspire Leadership Academy — a development program aimed at helping faculty from under-represented groups in STEM rise to leadership roles in higher education. Guan Saw a researcher at UTSA, an urban serving university, is contributing to the advancement of knowledge for improving Science Technology Engineering and Mathematics (STEM) education and workforce preparation, especially among historically underserved and underrepresented students. In September 2022, UTSA Academic Affairs has awarded endowed fellowships to nine faculty members for the 2022-2023 academic year. The awards are granted annually to recently tenured faculty to recognize exceptional early career impact, and to advance scholarly research and the academic success of their students.</p>

Indicator	Strong Evidence	UTSA
<p>Institutional course descriptions and learning objectives – regardless of the discipline – include an expressed focus on DEI, social justice and/or public interest.</p>	<p>A review of course descriptors and learning objectives displays an explicit and integrated emphasis on issues of DEI, social justice, and/or public interest across a wide sector of courses and disciplines.</p>	<p>Strong Evidence UTSA was awarded a five-year, \$3 million grant from the National Science Foundation (NSF) to study pedagogical approaches for supporting Hispanic and underrepresented students in STEM disciplines.</p>
<p>Courses across the institution include innovative teaching strategies – beyond lecture and memorization -- which actively engage students in community-based learning such as internships, project-based learning, action research, and case studies analysis.</p>	<p>Institution is well-known for innovative teaching practices, and pairs community-engagement with active reflection and discussion, the completion of authentic projects with real community impact, and sustained relationships with community-based organizations.</p>	<p>Strong Evidence The Center for Civic Engagement, in collaboration with the Office of Student Financial Aid and Enrollment Services, “launched a unique community-based work-study program called Rowdy Corps. The program is a first of its kind at UTSA. Rowdy Corps is designed to place students in local non-profits to complete their required work-study hours. The students will receive valuable applied learning experiences in a variety of agency settings, such as child welfare, arts and culture, public communication, adult education, and environmental impact.”</p> <p>The University of Texas at San Antonio Center for Civic Engagement, in collaboration with District 8 Councilman Ron Nirenberg, are launching “the new City of San Antonio (COSA) Challenge Grant Program. The program’s mini-grants will provide funds to individual UTSA students and groups of students to create experiential learning opportunities in partnership with a non-profit or public sector agency in San Antonio.”</p>
<p>Institutional availability of and widespread access to campus-based lab spaces, libraries, databases, and other critical resources for research and curriculum that supports STEM and PIT innovation, which are continually updated.</p>	<p>The institution has a plethora of well-endowed, state-of-the-art resources to support research and curriculum in STEM and PIT innovation, which are backed by institutional funding and key leadership buy-in. These resources are well-known and utilized within the university community and are regularly assessed and updated.</p>	<p>Strong Evidence The Gula Tech Foundation has awarded UTSA’s Center for Infrastructure Assurance and Security (CIAS) a \$250,000 grant “to raise public awareness about cybersecurity. The foundation distributed \$1 million in grants across seven winners, with the CIAS being recognized as its first-place recipient.”</p>

Indicator	Developing	UTSA
<p>Institution offers an ethics or social justice course as a required/ gateway course for all students, providing an opportunity to introduce students to the kinds of questions that underlie PIT, as well as to interdisciplinary learning and questions of Justice, Equity, Diversity and Inclusion (JEDI) more generally.</p>	<p>Institution offers an interdisciplinary ethics or social justice course, but it is primary an elective and is not required for all students in all majors.</p>	<p>Developing</p> <p>UTSA offers a Civil Rights and Social Justice trip which “allows for UTSA students to become immersed in the history of the Civil Rights Movement. Students will visit historical markers such as the 9th Ward, the Civil Rights Institute, 16th Street Baptist Church, Kelly Ingram Park and the National Civil Rights Museum. The trip concludes with students participating in the MLK March back in San Antonio, TX.”</p>
Indicator	Strong Evidence	UTSA
<p>Institution has plentiful and robust opportunities for co-teaching and collaboration among faculty in different schools, departments, and disciplines. There are also institutionally structured and funded opportunities for faculty to engage in interdisciplinary collaboration such as research and grant writing.</p>	<p>There are multiple examples of interdisciplinary collaboration and co-teaching in course syllabi, and a significant number of faculty hold dual appointments in both traditional STEM disciplines and in the humanities or social science fields (for example in Communications Technology and Urban Studies, or in Cybersecurity and Political Science). The institution also has structured and supported opportunities to bring professors in diverse schools and departments together learn about each other’s research, and to there is technical support and funding for interdisciplinary collaboration such as research and grant writing.</p>	<p>Strong Evidence</p> <p>The Urban Education Institute was formed through a UTSA presidential initiative launched in January 2019. “Based within the College of Education and Human Development and housed at the Downtown Campus, the institute serves as an educational incubator for transdisciplinary research teams, school districts and community organizations to address equity and access across the P-20 educational spectrum. The institute seeks to amplify the impact of collective efforts to raise San Antonio’s educational attainment and economic mobility levels through applied research, developing innovative models that can be used in urban settings across the nation.”</p>

Indicator	Strong Evidence	UTSA
<p>Institution has interdisciplinary degree programs, including opportunities for students to cross-register for courses, take electives and/or receive credit for upper-level courses outside of their discipline, or design their own major.</p>	<p>In addition to interdisciplinary programs such as gender or ethnic studies, the institution offers students the opportunity and flexibility to develop their own interdisciplinary majors and may have a separately funded School, Center or Department of Interdisciplinary Studies.</p>	<p>Strong Evidence UTSA offers a Ph.D. in ISTEAM (Interdisciplinary Science, technology, engineering and math) to understand local and global STEM issues from multiple perspectives. In addition, among a number of what the school calls “multidisciplinary degree programs.” For example, UTSA also offers a Ph.D. in Interdisciplinary Learning described as: “drawing on theory and research addressing the interdisciplinary nature of content, knowledge, process, learning theory....and the delivery of interdisciplinary instruction with and through technology-based processes and systems.” The program also offers students the opportunity to collaborate and conduct research with professors from a variety of disciplines.”</p>
<p>Institution has articulation agreements with community colleges, which allow credits to easily transfer from two-year to four-year institutions.</p>	<p>Institution has developed formal pathways and articulation agreements with local community colleges that guarantee admission to four-year institutions upon completion of two-year degree program. Institution works with local community colleges to expediate degree programs by allowing for dual credit programming, cross-institutional counseling, and reverse degree programs.</p>	<p>Strong Evidence UTSA has a number of P-20 Initiatives, including the Dual Credit Program, Rowdy Ready, the Prefreshman Engineering Program (in collaboration with the College of Engineering), TRiO Upward Bound, TRiO Educational Talent Search, and others. She also will oversee UTSA Child Development Center to infuse academic programming and UTSA student engagement in the Center’s mission and activities.</p>
<p>Institution has demonstrated leadership buy-in from presidents, provosts, deans, and department chairs who are comfortable with interdisciplinary work, community-based programming, and support public interest work.</p>	<p>Institutional leadership has been active in creating several new degree programs and is well-known for being proactive and visionary in their approach. Institutional leadership has participated in national convenings on innovative and interdisciplinary education, has dedicated funding for innovative work, and/or has made pledges to support the on-going development of public interest work.</p>	<p>Strong Evidence “UTSA was selected as one of 15 public research universities to participate in the National Science Foundation-funded INCLUDES Alliance, Aspire: The National Alliance for Inclusive and Diverse STEM Faculty, its inaugural three-year institutional change effort to help those schools reform their recruitment, hiring and retention practices.” Heather Shipley, UTSA senior vice provost for academic affairs and dean of University College, serves as the institutional point of contact for the Aspire Alliance.</p>

Indicator	Strong Evidence	UTSA
<p>Institution provides active incentives for professors interested in doing public interest work, including action research and community-based service.</p>	<p>Institution has a track record of hiring and giving tenure to professors that are known for their innovative or interdisciplinary work, action research, or community-based service, including the existence of endowed chairs representing these priorities.</p>	<p>Strong Evidence Professors Carmen Fies and Chris Packham at The University of Texas at San Antonio (UTSA) have been honored for their efforts to enhance STEM education in San Antonio schools by creating and nurturing educational partnerships in the community.</p>
<p>Institution has ongoing and accessible faculty professional development opportunities, including funding, trainings, mentorships, and open educational resources (OER) that support the development of new courses, especially those on public interest topics.</p>	<p>The institution has dedicated funding for faculty professional development, mentoring and OER – including funding for inter-institutional research, travel and conferences -- and there is evidence that faculty are expected to and incentivized to take advantage of these opportunities on a regular basis.</p>	<p>Strong Evidence The UTSA Office of Academic Innovation has supported more than “1,000 faculty participants and invested more than \$1.1 million in professional development initiatives since the summer 2021 semester. Through different courses, grants and mentoring programs, participating faculty have a unique opportunity to enhance their teaching skills, expand their knowledge and foster personal development. With a focus on innovation and inclusivity, these courses also help professors better adapt to teaching across modalities.”</p> <p>The program includes: Teaching, Learning and Digital Transformation: “Held 50 workshops focused on inclusive teaching, digital accessibility, Universal Design for Learning, digital fluency and pedagogical innovation. The workshops were conducted in-person, online or in a hyflex modality, depending on their subject matter.”</p>
<p>Institution sponsors and supports student and student-led initiatives, clubs, and dissemination channels (such as podcasts) that can help raise awareness and increase interest in both PIT from racially and culturally diverse groups of students, such as Stanford University’s TELOS (Technology for Equity in Learning Opportunities).</p>	<p>Institution has a diverse array of innovative clubs and initiatives that are both PIT and JEDI focused and serve as examples and models for other institutions. University has dedicated funding and faculty support for the long-term development and growth of these initiatives.</p>	<p>Strong Evidence “The Bold Scholars Program is a 4-year program that will provide support, resources, and community to help the students in this program engage early in the university experience, build your network, and participate in career-focused experiential learning across their four-year course of study at UTSA. The program is designed to foster your ultimate success both in the classroom and in their career.</p> <p>Cyber Jedis is “centered around being a collaborative space for people of all skill levels to further enhance their knowledge in cybersecurity. We host in-person meetings as well as hold live recordings, and students are encouraged to request certain topics and even participate in their own presentations if they so choose. Our group has helped students learn the tools and techniques to become successful penetration testers beginning with the basics and moving towards more advanced topics.”</p>

Indicator	Strong Evidence	UTSA
<p>Institution has K-12 outreach, mentoring and bridge programs on PIT-related topics, such as “Black Girls Code,” which may identify students interested in PIT at an early stage and create articulated pathways to higher education and to PIT.</p>	<p>Institution has successfully created high school outreaching, mentoring and/or bridge programs that already are or could be adopted for PIT focus and pathways. Some of these programs and models have been adopted by other institutions or brought to a national scale.</p>	<p>Strong Evidence The CIAS K-12 Cybersecurity Program “promotes a culture of cybersecurity by engaging students and families in K-12 classrooms. The foundation’s grant will help the program provide tools and resources at no cost to educators that expand cybersecurity awareness across all ages and backgrounds.” In addition, UTSA, SAISD, and Alamo Colleges District have joined forces to help further grow the education pipeline in the City of San Antonio. Together the institutions have launched the new Construction Sciences Pathways in Technology (P-Tech) program, which will be housed at Sidney Lanier High School, located in San Antonio’s West Side community. The program will allow more students from across the community to experience UTSA firsthand and learn about its innovative fields of study.</p>
<p>Institution has credential programs, digital badging, or Registered Apprenticeship (RA) programs that might attract practitioners and older students to go back to school and focus on PIT-related topics.</p>	<p>Institution has many such opportunities, and has robust and active partnerships with employers, non-profits, funders, or government agencies who support these programs and whose mission is aligned with PIT.</p>	<p>Strong Evidence UTSA’s Career in Focus has served over 2,000 job-insecure San Antonians through free and deeply discounted career advancement programs leading to skills-based digital badges or professional certificates. The initiative included two primary programs: a series of free and discounted Job Jumpstart courses and Career Builder Badges microcredentials.</p>
<p>Existence of mentorship, post-doc, and faculty fellowship programs which could bring professionals active in PIT onto campus for an extended period.</p>		<p>Unclear</p>

<p>Institution demonstrates openness to publicly sharing data drawn from faculty research, partnerships, and program evaluation.</p>		<p>Unclear</p>
<p>Indicator</p>	<p>Strong Evidence</p>	<p>UTSA</p>
<p>School leadership (Presidents, Provosts, Deans) are engaged in local and national public policy issues and have a national presence and dedicated pathways to work in partnership with public and private institutions that support PIT.</p>	<p>The President is nationally recognized as a leader in the higher education landscape as well as in related public policy issues, including regularly writing about these issues for public consumption, participating in high profile events, and supporting new innovation and partnerships around PIT.</p>	<p>Strong Evidence</p>

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