

## LOGIC MODEL

### Indiana STEM LSAMP – Building a Community of STEM Scholars

Indiana STEM Louis Stokes Alliance for Minority Participation (IN LSAMP) was formed in 2016 with an award from the National Science Foundation (HRD 1618-408). The alliance comes together with *a single shared goal of doubling the number of STEM Bachelor's degrees earned by underrepresented minority (URM) students at each campuses.*

The alliance focuses on strengthening URM students' academic preparation, increasing engagement in their STEM disciplines on our campuses, retaining students in STEM majors to graduation, transitioning students from community colleges to four-year institution, and preparation for STEM careers and graduate school.

To achieve our goal the alliance implements three broad strategies across six campuses:

- engage in High-Impact Practices (HIPs) to increase the retention rate of first-year, full-time URM students by 2% per year at each institution
- facilitate seamless transition into STEM undergraduate and graduate degree programs
- design a website dedicated to alliance communication and dissemination of IN LSAMP best practices

***The teaching and learning practices below have been widely tested and have been shown to be beneficial for college students from many backgrounds, especially historically underserved students, who often do not have equal access to high-impact learning practices. These practices take many different forms, depending on learner characteristics and on institutional priorities and contexts. (cited, <https://www.aacu.org/resources/high-impact-practices>)***

#### High-impact Practices (HIPs) identified by the Association of American Colleges & Universities

- First-Year Experiences
- Common Intellectual Experiences
- Learning Communities
- Writing-Intensive Courses
- Collaborative Assignments and Projects
- Undergraduate Research
- Diversity/Global Learning
- ePortfolios
- Service Learning, Community-Based Learning
- Internships
- Capstone Courses and Projects

#### IN LSAMP HIPs

- Annual research conference
- Faculty-mentored summer research
- Math assessment and on-line review support
- Peer mentoring programs (Peer Tutors, Learning Assistants, Ambassadors)
- Summer bridge programs
- Themed learning communities
- Transfer Single Articulation Pathway (TSAP)
- Travel funding for scholars to present at professional conferences
- Community building activities

Resources/Input	Activities	Outcomes	Short-term Outcomes (12-18 months)	Long-term Outcomes (24 months +)
<ul style="list-style-type: none"> <li>• NSF Funding (HRD1618-408)</li> <li>• Louis Stokes Alliance for Minority Participation (LSAMP) Model</li> <li>• Leadership Team <ul style="list-style-type: none"> <li>○ PI</li> <li>○ Co-PIs (4)</li> </ul> </li> <li>• Alliance Institutions (campus sites): <ul style="list-style-type: none"> <li>○ Ball State University</li> <li>○ IU Bloomington</li> <li>○ IU Northwest</li> <li>○ IUPUI</li> <li>○ IU South Bend</li> <li>○ Ivy Tech Community College (Indianapolis)</li> </ul> </li> <li>• Inlsamp.org – interactive website strategically managing student funding opportunities, and IN LSAMP activities hosted at each campus</li> <li>• Alliance Office: <ul style="list-style-type: none"> <li>○ Alliance Director</li> <li>○ Project Manager</li> </ul> </li> <li>• Campus Directors and Coordinators</li> <li>• Faculty Mentors</li> <li>• Summer Research Scholars</li> <li>• Peer Mentors/Tutors/Learning Assistants</li> <li>• High School Ambassadors</li> <li>• High School Summer STEM Bridge Student Directors</li> <li>• URM STEM students</li> <li>• Advisory Board <ul style="list-style-type: none"> <li>○ Industry, government, and academic partners</li> </ul> </li> <li>• Institutional Data <ul style="list-style-type: none"> <li>○ University Institutional Research &amp; Reporting (IU)</li> <li>○ Institutional Effectiveness (ITCC)</li> <li>○ (BSU)</li> </ul> </li> </ul>	<p><b>Building a STEM professional identity through student funded opportunities</b></p> <ul style="list-style-type: none"> <li>• Summer Research Scholar experience that includes hands-on research partnered with student development modules</li> <li>• Peer mentoring/Peer tutoring/Learning assistant scholars participate in training and reflection on their experiences working with peers</li> <li>• High School Ambassadors</li> <li>• STEM Summer Camp Student Directors</li> <li>• Math Tutoring</li> </ul> <p><b>Facilitate Seamless Transition from 2 to 4 year university - Activities hosted on the Ivy Tech Community College campus</b></p> <ul style="list-style-type: none"> <li>• Invited speakers/ panels from IN LSAMP campuses</li> <li>• Networking events</li> <li>• STEM career days</li> <li>• Student visits to partner campuses</li> <li>• Peer tutoring</li> <li>• Active learning</li> <li>• Faculty mentoring</li> <li>• Club/Student organization creation</li> </ul>	<p>Students produce a resume, LinkedIN page, E-portfolio of their activities and engagement</p> <p>Responsible Conduct of Research Certification</p> <p>Tutor/Multi-cultural training modules completed and critical reflections collected from students</p> <p>Students engaged with faculty outside of the classroom – co-authors, co-presenters, conference attendance</p> <p>Create an online network to reach URM students interested in pursuing a STEM degree, or career at each campus with opportunities outside IN LSAMP</p> <p>Provide mentor training and resources to faculty</p> <p>Create a TSAP for every CIP IN LSAMP code on our campuses</p>	<p>Increase the first-year, full-time URM retention rate by 2% per year at each institution</p> <p>Reduce barriers and increase engagement of URM STEM students earlier in the transfer process.</p> <p>Foster seamless transitions into STEM undergraduate and graduate degree programs</p> <p>Strengthen disciplinary engagement</p> <p>Develop student’s STEM professional identity</p> <p>Promote Alliance Professional Development activities</p> <p>Disseminate career and graduate school opportunities in STEM</p> <p>Track professional and education experiences of all IN LSAMP Scholars</p>	<p>Double the number of STEM BS degrees earned by historically Underrepresented Minorities (URMs)</p> <p>Sustain a relationship between 2 and 4 year institution advisors and faculty to assist students during transfer to campus and major</p> <p><b>Broader Impacts</b></p> <p>STEM graduates enter national research and development enterprises</p> <p style="text-align: center;">↓</p> <p>Diversify the STEM workforce of the United States</p> <p>Help the country regain its pre-eminence in scientific and technological advancement</p>

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<ul style="list-style-type: none"> <li>• External Evaluation               <ul style="list-style-type: none"> <li>○ Goodman Research Group)</li> </ul> </li> <li>• Conferences for Student STEM Professional Development and Networking               <ul style="list-style-type: none"> <li>○ LSMCE, IN LSAMP Annual Conference, Campus Research Conferences, Discipline specific conferences, etc.</li> </ul> </li> <li>• Literature, existing body of knowledge and evidence based research published over URM STEM engagement</li> <li>• STEM Education Innovation and Research Institute (SEIRI)</li> <li>• Louis Stokes Midwest Center of Excellence (LSMCE)</li> <li>• Indiana Commission for Higher Education               <ul style="list-style-type: none"> <li>○ Transfer Single Articulation Pathways (TSAP)</li> </ul> </li> <li>• LSAMP partnerships               <ul style="list-style-type: none"> <li>○ IINSPIRE, MO-LSAMP, OH LSAMP, KY WV</li> </ul> </li> <li>• Inter-alliance committees (STEM faculty mentoring handbook, LSAMP onboarding manual for coordinators)</li> </ul>	<p><b>Annual Events:</b></p> <ul style="list-style-type: none"> <li>• Annual Conference featuring keynote speakers and workshops providing STEM professional development opportunities for faculty, staff, and students</li> <li>• Conference workshops focused on graduate school preparation (How to locate a program, Prepare a personal statement, Locate funding for graduate school, etc.)</li> <li>• Annual Retreat bringing all campuses together with the advisory board to review goals and strategies to meet objectives</li> <li>• Student engagement with STEM faculty, and graduate students at our activities and conferences is one way we connect students with future mentors and role models</li> </ul> <p><b>Communication</b></p> <ul style="list-style-type: none"> <li>• Disseminate NSF and LSAMP opportunities to our IN LSAMP audience</li> <li>• Dissemination of undergraduate research at professional conferences</li> </ul>			