

**MARYLAND ACCELERATES (MA):  
TEACHER-LEADER RESIDENCY FOR INCLUSIVE EXCELLENCE**

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Application for the Teacher Quality Partnership Grant Program (84.336S)

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## List of Terms

CAEP	Council for the Accreditation of Educator Preparation
COE	College of Education
CPAST	Candidate Preservice Assessment of Student Teaching
CRT	Culturally Responsive Teaching
CT	Computational Thinking
EdTPA	EdTPA is a standards-based, subject-specific performance assessment
FARM	Free and Reduced Price Meals

FCPS	Frederick County Public Schools
FSU	Frostburg State University
GCPS	Garrett County Public Schools
GPRA	Government Performance and Results Act Performance Measures
HLP	High Leverage Practices
IHE	Institution of Higher Education
LEA	Local Education Agency
LEP	Limited English Proficient
MA	Maryland Accelerates
MAI	Maryland Accelerates Institute
MAT	Master of Arts in Teaching
MCCE	Maryland Center for Computing Education
MCCRS	Maryland College and Career-Ready Standards
MCIEE	Maryland Commission on Innovation and Excellence in Education
MPS	Mathematical Problem Solving
MSDE	Maryland State Department of Education
NBC	National Board Certification
NCATE	National Council for Accreditation of Teacher Education
NIC	Networked Improvement Community
PARCC	Partnership for Assessment of Readiness for College and Careers
PDPSN	Professional Development Partnership Schools Network
PDS	Professional Development School
SETR	Standards for Effective Teacher Residencies
SPA	Specialized Professional Association
STEM-C	Science, Technology, Engineering, Math & Computer Science
TF	Teaching Fellow (New Teacher)
TL	Teacher Leader (Mentor Teacher)
TR	Teaching Resident (Teacher Candidate)
USM	University System of Maryland

## **I. ABSOLUTE AND COMPETITIVE PREFERENCE PRIORITIES**

### **A. Absolute Priority: Establishment of Effective Teaching Residency Program**

Maryland Accelerates (MA) aims to build systemic capacities in high-need rural communities through teacher-leader residencies with career advancement pathways for inclusive excellence. The accelerated pathways are designed to simultaneously increase teacher diversity and improve teaching competencies, while bridging opportunity and achievement gaps through investment in region-wide infrastructures and career ladder frameworks for improvement of teacher effectiveness, retention, and career advancement. The MA addresses Absolute Priority and Competitive Preference Priority I under the TQP Program.

Leveraging partnerships in high-need rural schools, the innovative teacher-leader residency program will help realize State priorities in preparing and retaining highly-effective teachers in the critical shortage areas of Science, Mathematics, Computer Science, English, and Elementary Education (Senate Bill 1030, House Bill 1413; MCIEE, 2018; MSDE, 2016). The core partnerships include Frostburg State University (FSU), FSU P-20 Education Council, FSU Professional Development Partnership Schools Network, Frederick County Public Schools, and Garrett County Public Schools. The P-20 partnership reflects region-wide commitment to maximizing impact and ensuring sustainability. The MA will implement three high-tech, high-touch, and high-impact innovations (Figure 1):

#### **1. *Accelerated MegaCommunity for Systemic Capacity and Linkage Building (Goal 1).***

Leveraging cross-sector expertise and resources among academic experts, policy makers, and industry leaders, the MA will build capacities and share resources for accelerated teacher-leader residency programs with professional development infrastructures and educator career ladders for teacher advancements in the partnership regions.

2. ***Accelerated Teaching Residency with Year-Long Clinical Experience (Goal 2)***. Leveraging current knowledge, promising practices, and advanced technologies, the MA partners will co-implement innovative Master of Arts in Teaching (MAT) residency programs to increase diverse teacher supply and accelerate professional growth through intensive and extensive field-based preparation with a fully integrated curriculum, nationally validated assessments, and evidence-based MicroCredentials documenting competency mastery.
3. ***Accelerated Teacher-Leader Pathways with Two-Year Induction (Goal 3)***. Leveraging heightened interests in the teacher career advancement continuum among governing, advocacy, regulatory, and educational agencies in Maryland, the MA partners will co-implement innovative educator career ladders for new and experienced teachers to improve teaching effectiveness with positive impact on student achievement, increase teacher retention, and accelerate teacher leadership advancement toward National Board Certification.

The MA will impact a total of 42 new teachers and 138 induction mentors/coaches, and 4500 K-12 students during the five-year grant period. The rigorous research-based design will include complementary quantitative and qualitative evidence documenting impact on teacher supply, effectiveness, retention, and advancement, as well as the influence on P-12 student learning and achievement. Building upon common goals and leveraged resources among partnering agencies as well as promising practices from an active TQP grant awarded in 2016, the MA team is well-positioned to successfully implement the proposed project. The MA team will study the efficacy, impact, and potential for scaled implementation and replication in larger contexts of teacher-leader residency development and student achievement, particularly among geographically dispersed and high-need communities. The expected findings demonstrating

MA's systemic approaches and positive impact will help establish a national model in sustaining a highly effective and culturally responsive teaching workforce for our shared future.

## **B. Competitive Preference Priority 1: Increasing STEM and Computer Science Educators**

### ***B.1 Increase Highly Effective and Diverse Teachers in STEM-C Fields***

In directly alignment to the Blueprint for Maryland's Future (MCIEE, 2019; Senate Bill 1030 and House Bill 1413), the proposed MA initiative is designed to create innovative and sustainable pathways for Maryland's future. MA Goal 1, ***Accelerated MegaCommunity***, aims to build systemic capacity and linkage through tri-sector partnership in high-need LEAs. MA Goal 2, ***Accelerated Teaching Residency***, aims to increase the rigor of teacher preparation and accelerate the diversity of teacher supply in critical shortage areas. MA Goal 3, ***Accelerated Teacher-Leader Pathways***, aims to elevate the teaching professions with career ladders to improve teaching effectiveness, increase teacher retention, and accelerate career advancement.

Specifically, the MA will include three targeted strategies in addressing the competitive preference priority: (1) increase STEM-C educators through the delivery of a re-engineered MAT in Science and Mathematics and the delivery of a new MAT program in Computer Science; (2) integrate mathematic problem solving and computational thinking across all MAT programs to promote scientific inquiry in partnering elementary and secondary schools; and (3) infuse culturally responsive teaching and high leverage practices to increase student engagement and achievement in high-need schools. Collectively, 100% of the participants will be engaged in specialized MA instructional practices, and 43% of the participates will be licensed in STEM-C areas. Through processes of institutionalization, the MA expects that a minimum of 85% of the teaching residents, 85% of the new teachers, and 85% of the mentors will successfully complete the program requirements with documented impact on P-12 students.

The MA team is well-positioned to build capacities and increase access, quality, and efficiency of STEM-C education in Maryland. The current MAT programs in Mathematics and Science at FSU are accredited by the National Council for Accreditation of Teacher Education (NCATE, now CAEP), approved by the Maryland State Department of Education (MSDE), and national recognized by Specialized Professional Associations (SPAs) including National Science Teachers Association and National Council of Teachers of Mathematics. One hundred percent of program completers meet State licensure requirement. With regards to Computer Science, the MA initiative will address local needs by leveraging expertise and resources at the state level through ongoing partnership with the Maryland Center for Computing Education (MCCE). Led by the University System of Maryland (USM), the MCCE is designed to expand access to high-quality P-12 computing education by strengthening educator skills and increasing the number of computer science teachers in elementary and secondary education. The MA curriculum and clinical experiences will further build on evidence-based practices from national initiatives such as the Governors for Computer Science Education Initiative and the NSF Expanding Computing Education Pathways Alliance. In collaboration and with funding awarded from MCCE in 2019, the MA team is on target to design and deliver the new Computer Science program by 2020.

To accelerate the growth of a diverse and highly effective STEM-C teaching workforce, the MA will devote efforts to training, re-training, and retaining participants with multiple pathways for success: (1) *Pathway from the Field* through collaboration with regional centers and industry leaders to recruit and train individuals with strong and diverse backgrounds in STEM-C, (2) *Pathway from LEAs* through collaboration with partnering school districts to recruit and retain individuals who are seeking transition into STEM-C fields; and (3) *Pathway from IHEs* through aggressive recruitment among partnering IHEs within the USM.

## ***B.2 Improve Teacher Effectiveness and Student Achievement in Mathematical Problem Solving and Computational Thinking Across Elementary and Secondary Education***

One hundred percent of the participants will be engaged in specialized instructional practices in mathematical problem solving and computational thinking across disciplines. The contents and strategies for mathematical problem solving are evidence-based teaching practices that meet WWC standards (Woodward et al., 2012). The contents and strategies for computational thinking are based on the Maryland Technology Education Standards and the core principles and practices from the *K-12 Framework for Computer Science* (K12CS.Org, 2016). The synergistic combination aims to integrate scientific inquiries across all MA program areas of Science, Math, Computer Science, English, and Elementary education. The MA aspiring, new, and mentoring teachers are thus expected to directly impact P-12 students across elementary and secondary schools. Teacher competencies and influence on student learning will be documented through the *MicroCredentials in Computational Thinking*. Details are articulated in Section II.

## ***B.3 Increase Student Engagement and Achievement through Culturally Responsive Teaching and High Leverage Practices***

While state-wide efforts have been devoted to increasing teachers in critical shortage areas (MSDE, 2014), the MA provides highly-focused clinical preparation and induction in culturally responsive teaching (Ladson-Billings, 1994) and high-leverage practices (TeachingWorks, 2012) for educators across elementary and secondary education programs. The goals are to integrate high-leverage pedagogies and evidence-based practices that will have immediate and sustaining impacts on student learning and achievement in high-need communities. Teacher competencies and influence on student learning will be documented through the MA *MicroCredentials in High Leverage Practices*. Details are articulated in Sections II.



## II. QUALITY OF THE PROJECT DESIGN

### A. The extent to which the proposed project demonstrates a rationale.

#### *A.1 Blueprint for Maryland's Future*

The Maryland Commission on Innovation and Excellence in Education (MCIEE) was created in 2016 by the Governor and the General Assembly to review and update funding formulas for Maryland schools, and to develop policies and practices so that Maryland's schools perform at the level of the world's best systems (MCIEE, 2019). The Commission's report and resulting Blueprint for Maryland's Future (Senate Bill 1030; House Bill 1413) call for sustained and coordinated effort in five main policy areas: (1) Early Childhood Education, (2) High-Quality and Diverse Teachers and Leaders, (3) College and Career Readiness Pathways, (4) More Resources to Ensure All Students are Successful, and (5) Governance and Accountability. The report and the Chairman's testimony (Senate Bill 1030; Testimony of William Kirwan, Kirwan, 2019) identified teacher shortage is a "big" issue as over 60% of new teachers hired are recruited by LEAs from outside of the State; nearly 50% of new teachers in their second year will not return for a third year; and further stressed science and mathematics as critical teacher shortage areas that will directly impact Maryland's future. The factors of teacher attrition and shortage are echoed in the Maryland State Department of Education Staffing Report, which identified critical shortages in mathematics, sciences, and technology education. Among the 19 new hires in Computer Science (7-12) in Maryland, 4 (21%) were prepared in the State; among the 391 new hires in Mathematics, 114 (30%) were prepared in the State; and among the 331 new hires in the Sciences, 102 (32%) were prepared in the State (MSDE, 2016).

#### *A.2 Critical Needs in Narrowing Opportunity and Achievement Gaps*

Maryland schools perform at a mediocre level with 4th grade Math ranked 29th and

reading ranked 26<sup>th</sup>, and 8th grade Math ranked 25<sup>th</sup> and reading ranked 18<sup>th</sup> (U.S. Department of Education, 2015). Specifically, the testing results revealed that Maryland has large achievement gaps based on income, race, disability and other student subgroups (MCIEE, 2019). As an example, over half of Maryland public schools have 40% or more of their students eligible for a free or reduced-price meal (FARM, 185% of federal poverty level). The *Moving Maryland Forward: Sharpen the Focus for 2020* (MSDE, 2016) further indicated that in 2015-16 the English Language Arts/literacy and mathematics gap was 19% to 34% for students with disabilities based on PARCC assessment results. These local gaps are mirrored in the national challenges of unemployment and underemployment among underserved populations (The Pell Institute, 2015) and are ultimately reflected in unequal occupational and life outcomes (Noguera, P. et al., 2015).

The opportunities and achievement gaps among underserved students in rural settings are critically impacted by access to qualified teachers. The shortage of teachers in STEM-C areas (MSDE, 2016), the unbalanced distribution of qualified teachers, and the low-performing status of the partnering LEAs (Appendix C) demonstrated the urgent needs for high-impact interventions to recruit and retain qualified teachers. Beyond qualifications, access to highly effective teachers from diverse backgrounds is increasingly an educational civil right for students. “The growing re-segregation of American schools by race, ethnicity, compounded by economic class segregation, has become the dominant trend in American education” (Albert Shanker Institute, 2015). Teachers’ ability to work effectively with diverse students is thus increasingly a key strategy for inclusive excellence.

Nationwide, policy makers, educational organizations, and advocacy agencies have demonstrated uneven engagement in change initiatives ranging from conceptual re-envisioning

to strategic modifications in practice. Despite pockets of excellence, the critical need to prepare highly effective teachers to better engage students in high-poverty and low-performing schools remains. This lack of systemic and integrated approaches to significantly improve professional competencies in critical shortage areas such as STEM-C is compounded by additional challenges, including: the lack of consensus on common expectations and tools for measuring outcomes; inadequate depth and breadth of contents and instructional strategies; insufficient opportunities for intensive and extensive clinical-based experiences; and lack of rigorous and streamlined career-wide professional learning pathways to develop and sustain a highly effective and culturally responsive teaching workforce.

### ***A.3 Maryland Accelerates as Pathways for Maryland's Future***

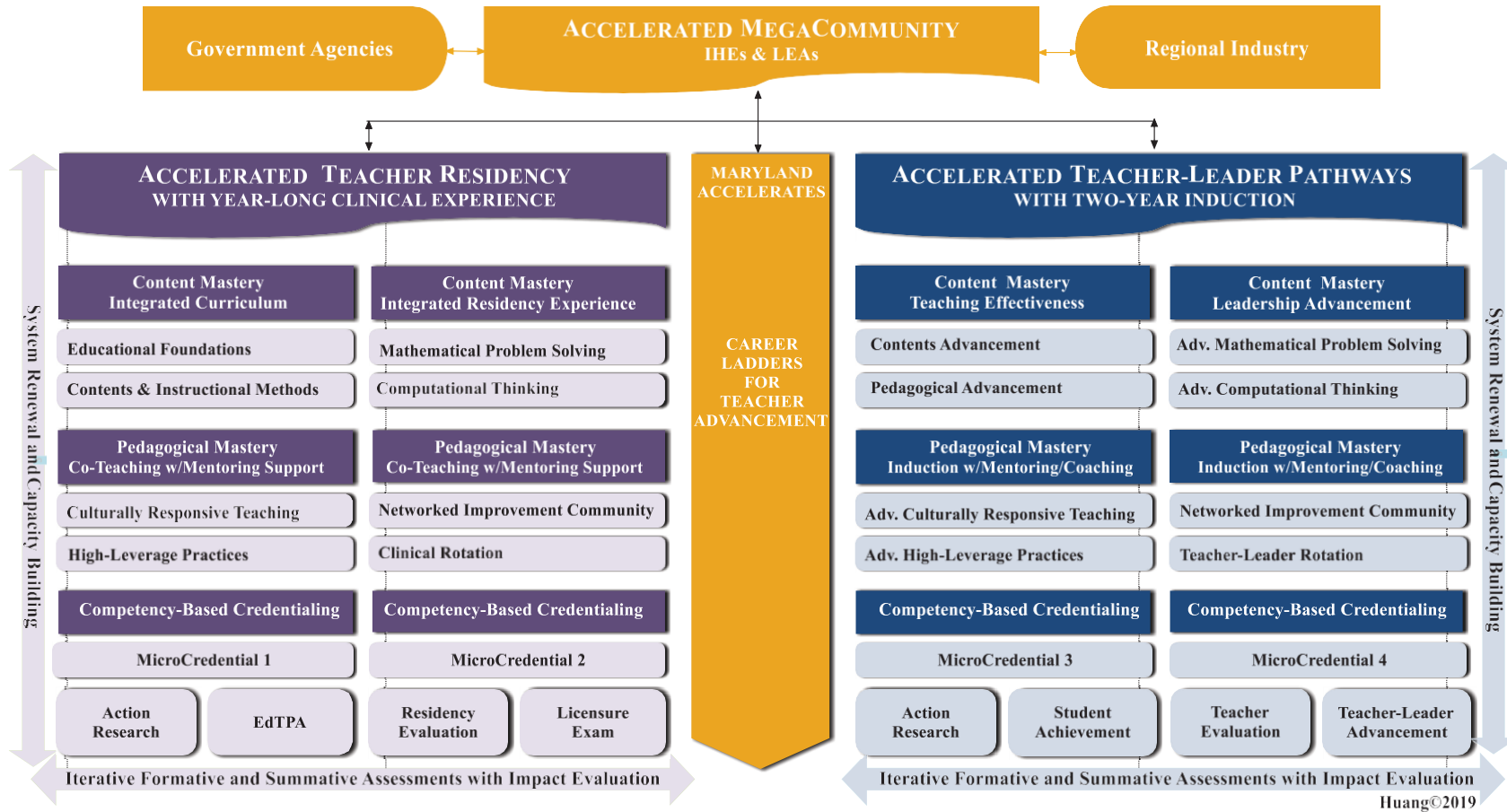
The bi-partisan support for Blueprint for Maryland's Future reflects key vision and priorities in educational innovation and excellence. Policy area 2, High-Quality and Diverse Teachers and Leaders, include specific recommendations of “elevating the teaching profession comparable to other fields with the same education and with comparable compensation; establishing a career ladder so that excellent teachers remain in the classroom; and increasing the rigor of teacher preparation programs and State certification standards” (MCIEE, 2019). In direct alignment to the Blueprint, the three MA innovations are designed to create accelerated and sustainable pathways for Maryland's future. MA Goal 1, ***Accelerated MegaCommunity***, aims to build systemic capacity and linkages among the partnering high-need LEAs. MA Goal 2, ***Accelerated Teaching Residency***, aims to increase the rigor of teacher preparation and accelerate diverse teacher supplies in critical shortage areas as identified by partnership LEAs. MA Goal 3, ***Accelerated Teacher-Leader Pathways***, aims to elevate the teaching professions with career ladders for improving teaching effectiveness and accelerating career advancement (Table 1).

**Table 1: Maryland Accelerates (MA) Logic Model**

	OUTPUTS AND SHORT-TERM OUTCOMES	LONG-TERM OUTCOMES AND IMPACT
<b>Goal 1: Accelerated MegaCommunity for Systemic Capacity and Linkage Building</b>		
<p>Lead: Executive Committee</p> <ul style="list-style-type: none"> <li>■ Objective 1: Establish <i>MegaCommunity</i> and the <i>Executive Committee</i> to build capacities and share resources for the accelerated teacher-leader pathways for career advancement.</li> <li>■ Objective 2: Conduct research and disseminate promising practices for scalable and sustainable improvement.</li> </ul> <p>🕒 Key Actions: Establish common expectations and measures for <i>Teacher-Leader</i></p>	<ul style="list-style-type: none"> <li>■ Leverage cross-sector expertise to create structures, processes, and practices for MA operations.</li> <li>■ Improved capacities to co-deliver the <i>Teaching Residency</i> and <i>Teacher-Leader Pathways programs</i>; and increased teacher supplies in critical shortage areas.</li> <li>■ Improved knowledge and enhanced practices on teacher-leader career ladders through collaboration in the MA Networked Improvement Community.</li> </ul>	<ul style="list-style-type: none"> <li>■ Enhanced capacities with demonstrated movement toward institutionalization.</li> <li>■ Narrowed opportunity and achievement gaps in teacher effectiveness and student achievement through evidence-based practices in MA competency areas.</li> <li>■ Documented positive impact of MA strategies and processes for potential scaled implementation, particular in high-need rural LEAs.</li> </ul>
<p>Lead: Teaching Residency Committee</p> <ul style="list-style-type: none"> <li>■ Objective 1: Establish <i>Teaching Residency Committee</i> to co-design and implement MAT residency program in Math, Sciences, Elementary and English Education.</li> <li>■ Objective 2: Co-design and implement comprehensive assessment to ensure mastery of content, pedagogical &amp; specialized competencies.</li> </ul> <p>🕒 Key Actions: Establish common expectations and measures, and recruit and retain diverse participants w/ strong</p>	<ul style="list-style-type: none"> <li>■ Implement and evaluate the redesigned MAT program with (1) Integrated curriculum for content mastery; (2) Extensive residency for pedagogical mastery; and (3) Specialized competencies for inclusive excellence, and (4) Comprehensive assessment with national validated assessment &amp; regionally developed MicroCredentials.</li> <li>■ Increased diverse teacher supply in critical shortage areas, and improved classroom readiness with demonstrated content, pedagogical and specialized competencies.</li> </ul>	<ul style="list-style-type: none"> <li>■ Enhanced capacities with demonstrated movement toward institutionalization.</li> <li>■ Increased level of <b>teaching resident effectiveness &amp; graduate employment</b> in critical shortage areas in high-need LEAs.</li> <li>■ Improved level of <b>classroom instructional practices</b> in MA competency areas as documented through MA MicroCredentials.</li> <li>■ Increased level of P-12 <b>student achievement</b> in LEAs and State assessments in English, Math &amp; Science, as appropriate.</li> </ul>
<p>Lead: Teacher-Leader Committee</p> <ul style="list-style-type: none"> <li>■ Objective 1: Establish <i>Teacher-Leader Committee</i> to co-design &amp; implement a two-year induction for increased teacher retention and accelerate teacher leadership development.</li> <li>■ Objective 2: Co-design and implement comprehensive support with rigorous assessment to increase teacher effectiveness and improve student learning.</li> </ul> <p>🕒 Key Actions: Establish common expectations, measured w/support for new &amp;</p>	<ul style="list-style-type: none"> <li>■ Implement and evaluate the induction program with (1) high quality professional development &amp; competency-based credentials; (2) joint mentoring in a Networked Improvement Community.</li> <li>■ Implement and evaluate IHE faculty &amp; PDS mentor training to build capacity &amp; ensure fidelity.</li> <li>■ Increased diverse teacher retention in critical shortage areas, improved teacher effectiveness with demonstrated content, pedagogical and specialized competencies; and enhanced movement toward National Board Certification (NBC)</li> </ul>	<ul style="list-style-type: none"> <li>■ Enhanced capacities with demonstrated movement toward institutionalization.</li> <li>■ Increased level of <b>teacher retention</b> in schools, districts, and profession.</li> <li>■ Improved level of <b>classroom instructional practices &amp; professional engagement</b> in MA competency areas as documented through MA MicroCredentials and movement toward NBC.</li> <li>■ Increased level of P-12 <b>student achievement</b> in LEAs and State assessments in English, Math &amp; Science, as appropriate.</li> </ul>

Figure 1: Maryland Accelerates (MA) System Design

**MARYLAND ACCELERATES:  
TEACHER-LEADER RESIDENCY FOR INCLUSIVE EXCELLENCE**



**B. The extent to which the goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable**

The MA innovations are based on current research in accelerated learning strategies, connected learning theories (Ito, et al., 2013, Garcia, 2014), competency-based credentialing (Grunwald Associates, LLC & Digital Promise, 2015 & 2016, Hickey, et al., 2014), high-impact practices (Kuh, 2008), community immersion processes (Waddell, 2013), high-leverage pedagogies (Ball & Forzani, 2012), high-velocity clinical preparation strategies (NCATE, 2010, Darling-Hammond & Lieberman, 2012), high-quality residency design and characteristics (Silva et al., 2014; Guha, Hyler, & Darling-Hammond, 2016), and improvement sciences (Bryk et al., 2013). MA curriculum, clinical practices, and assessment are aligned to national accreditation standards (CAEP, 2015), Maryland College and Career Readiness Standards (MCCRS) and state priorities in diversity and inclusion (MSDE, 2007 & 2013). The program structures and activities are designed based on the logic model (Table 1) to build capacities and linkages at individual, institutional, and community levels. The processes, strategies, and practices are supported by moderate to strong research evidence with “evidence of promise” that link inputs, outputs, and outcomes. The MA includes three goals realized through three initiatives (Figure 1).

***B.1 Goal 1: Accelerated MegaCommunity for Systemic Capacity and Linkage Building***

Leveraging cross-sector expertise and resources among academic experts, policy makers, and industry leaders, the MA will establish a MegaCommunity (Gerencser et al., 2009) connecting the higher education learning ecosystem and the educator employment ecosystem (Prince et al., 2015; Pace & Williams, 2015). The objectives are to (1) build capacities and leverage shared resources for accelerated teacher-leader pathways with professional development infrastructures and career advancement ladders for teacher advancement; and (2) conduct

research and promote promising practices for potential scaled implementation, validation, and replication in high-need communities. The innovative multi-sector investment mechanisms will help maximize social benefit, collective impact, and economic return (KnowledgeWorks, 2012). The short-term goals are to create structures, processes, and practices for the delivery of the MA teacher-leader programs. The mid-term goals are to establish *Educator Career Ladders* for career-wide professional engagement and advancement. The long-term goals are to demonstrate movement toward institutionalization and test MA strategies for scaled implementation and replication, particular in high-need communities (Table 1).

### ***B.2 Goal 2: Accelerated Teaching Residency with Year-Long Clinical Experience***

Leveraging current knowledge, promising practices, and advanced technologies, the MA partners will co-implement 18-month teacher residency programs in Computer Science, Science, Mathematics, English, and Elementary Education. The objectives are to (1) increase diverse teacher supply and accelerate professional growth through intensive and extensive field-based preparation with fully integrated curriculum; and (2) ensure competency mastery through rigorous combination of nationally validated summative assessments and regionally validated formative assessments. Upon successful completion, each teacher resident will receive a MAT degree and a teacher licensure in the area of specialization. The short-term goals are to build infrastructures and capacities for delivery of the re-engineered programs. The mid-term goals are to co-implement and evaluate the redesigned programs and their impact on Teacher Residents (TRs) and influence on student learning. The long-term goals are to demonstrate movement toward institutionalization and test MA strategies for scaled implementation and replication, particular in high-need communities. Key activities are summarized below (Tables 1 & 4, Figure 1).

#### ***B.2.a Accelerated Pathways for Competency Mastery***



The MA programs are designed based on current research and promising practices (Silva et al., 2014; and Guha, Hyler & Darling-Hammond, 2016); and are guided by the Standards for Effective Teacher Residencies (SETR; NCTR, 2018). Table 2 summarizes MA design standards and practices to ensure rigor, quality and impact.

**Table 2. Maryland Accelerates: Standards & Practices for Effective Teacher-Leader Residency**

<p><b>1. PARTNERSHIP &amp; PROGRAM SUSTAINABILITY (SETR Competency Area 1)</b></p> <ul style="list-style-type: none"> <li>■ <b>Regional Needs.</b> Leveraging IHE-LEA partnerships, the MA programs are designed to build region-wide capacities in preparing and retaining highly effective teachers based on district needs.</li> <li>■ <b>Shared Resources</b> Levering common goals, the MA programs are designed with shared accountability and matching resources to achieve program impact and sustainability goals.</li> <li>■ <b>Evidence-Based Improvement.</b> Leveraging expertise among MegaCommunity partners, the MA programs are designed with research-based approaches and data-informed improvement cycles for measuring program impact and sustainability.</li> </ul>
<p><b>2. RECRUITMENT &amp; SELECTION (SETR COMPETENCY AREA 2)</b></p> <ul style="list-style-type: none"> <li>■ <b>Rigorous Selection of Training Site.</b> Building upon long-standing partnerships, the MA training sites are selected from Professional Development Partnership Schools Networks that meets Maryland State PDS Standards (MSDE, 2007).</li> <li>■ <b>Rigorous Selection of Training Staff.</b> Building upon on-going collaboration, MA program recruits highly effective teacher educators, teachers, coaches, and provides targeted professional development to ensure coherency and fidelity in achieving program goals.</li> <li>■ <b>Rigorous Selection of Teaching Residents.</b> Building upon multiple pathways from IHEs, LEAs and regional industries, the MA program recruits diverse teacher candidates with deep content knowledge and a commitment to teaching high-need students.</li> </ul>
<p><b>3. RESIDENCY YEAR EXPERIENCE (SETR Competency Area 3)</b></p> <ul style="list-style-type: none"> <li>■ <b>Content Mastery.</b> Building upon research-based approaches, the MA program provides intensive deep learning activities and integrated curriculum for content mastery.</li> <li>■ <b>Pedagogical Mastery.</b> Building upon evidence-based practices, the MA program provides an intensive and extensive residency for pedagogical mastery.</li> <li>■ <b>Specialized Competencies.</b> Building upon partnership needs, the MA program provides innovative rural-urban Clinical Rounds and Rotations with specialized competencies for inclusive excellence.</li> <li>■ <b>Competency-Based Credentialing.</b> Building upon competency-based leaning, the MA program provides comprehensive assessments inclusive of nationally-validated summative assessments and regionally-validated formative assessments, partnership-wide validated MA MicroCredentials.</li> </ul>
<p><b>4. GRADUATE IMPACT (SETR Competency Area 4)</b></p> <ul style="list-style-type: none"> <li>■ <b>Immediate and Sustained Impact.</b> In direct support of LEA needs, the MA program supports placement of graduates with demonstrated competency mastery and commitment to teaching high-need students.</li> <li>■ <b>Teacher-Leader Advancement Pathways.</b> In direct alignment with State and LEA priorities, the MA program creates Educator Career Ladders with specialized professional development for career advancement.</li> <li>■ <b>Networked Improvement Communities (NIC) for Sustainable Advancement.</b> In direct support for achieving the shared goals of increasing teacher effectiveness and improving student learning, the MA program creates NIC for continuing engagement and sustainable advancement.</li> </ul>



### ***B.2.b Rigorous Recruitment and Selection***

The MA programs are operated with cohort-based progression inclusive of an 18-month teaching residency and a 2-year teacher-leader induction conducted in the PDPSN (Table 2).

*Rigorous Selection of Training Site.* Schools will be selected from the current PDPSN. As part of national accreditation and state recognition requirements, each of the schools has demonstrated movement in meeting the Maryland PDS Assessment Framework in the areas of: (1) Learning Community; (2) Collaboration; (3) Accountability; (4) Organization, Roles and Resources; and (5) Diversity and Equity (MSDE, 2007).

*Rigorous Selection of Training Staff.* Mentoring teachers will be jointly selected by the IHE/LEA partners with (1) demonstrated teaching effectiveness with a minimum of 3 years of experience, (2) demonstrated professional engagement with a minimum of 1.5 years of mentoring experience, (3) demonstrated commitment to professional growth with a minimum of 6 earned Continuing Professional Development Credits (CPDs, 90 contact hours), and (4) a recommendation from school/LEA leaders on subject area knowledge and teaching effectiveness. Selected mentors are expected to engage in rigorous professional development aligning to MA goals and strategies, serve as a mentor for the TRs and as a coach for Teaching Fellows (TFs, new teachers); and actively participate in MA's *Networked Improvement Communities* (NIC, Bryk, 2011; Bryk, Gomez, & Grunow 2011; DeMonte, 2013) for sustained engagement. Careful mentor-resident pairing will be jointly conducted by IHE/LEA to ensure matching of content expertise. Each mentor will receive a \$2000 stipend, release time for collaboration with his/her mentee, and opportunities to earn MA MicroCredentials for re-certification and movement toward National Board Certification (NBPTS, 2016). Mentor effectiveness will be observed jointly by partners in 4 specific domains: (a) Planning and Preparation; (b) the Classroom Environment; (c)

Professional Responsibilities; and (d) Instruction, including data-informed instructions and improvement (Danielson, 2013). LEA-specific teacher evaluation will also be incorporated.

*Rigorous Selection of Teaching Residents (TRs).* Residency will be selected through an application process and are will be expected to (1) demonstrate strong content background as specified in Code of Maryland Regulations; (2) demonstrate writing proficiencies and commitment to teaching through statements on teaching philosophy; and (3) demonstrate communication proficiencies and adequacy of professional dispositions through interviews with micro-lesson demonstrations. Upon successful admission, each TR will sign an agreement detailing provisions in the Absolute Priority (CFDA 84.336s), be provided with a \$30,000 living stipend, and be expected to participate in the 2-year induction and fulfillment of the 3-year teaching commitment in a high-need LEAs. Certificate of service from LEA will be required. Repayments for non-completion of program or service requirements will processed in accordance with provisions in the Absolute Priority. Funds from repayment will used to carry out activities that are consistent with the Absolute Priority and as articulated in this proposal.

**Table 3. Maryland Accelerates: Teacher-Leader Residency and Induction Scope and Sequence**

	MA Cohort 1 (N=12)	MA Cohort 2 (N=15)	MA Cohort 3 (N=15)
2020 Summer	C1 Residency		
2020 Fall	C1 Residency		
2021 Spring	C1 Residency	C2 Residency	
2021 Summer	C1 Residency	C2 Residency	
2021 Fall	C1 Residency C1 Induction	C2 Residency	C3 Residency
2022 Spring	C1 Induction	C2 Residency	C3 Residency
2022 Summer	C1 Induction	C2 Residency C2 Induction	C3 Residency
2022 Fall	C1 Induction	C2 Induction	C3 Residency
2023 Spring	C1 Induction	C2 Induction	C3 Induction
2023 Summer	C1 Induction	C2 Induction	C3 Induction
2023 Fall		C2 Induction	C3 Induction
2024 Spring		C2 Induction	C3 Induction
2024 Summer			C3 Induction
2024 Fall			C3 Induction

C = Cohort.

**B.2.c The Residency Experience.** Four targeted areas are summarized below and in Table 4.

**(i) Integrated Curriculum for Content Mastery.** Building upon research-based approaches, the MA program provides intensive deep-learning activities and integrated curriculum for content mastery with a total of 42 graduate credits. TRs will be engaged in high-leverage contents (TeachingWorks, 2012) with specially designed progressions: (1) Term 1 focuses on educational foundations, child development, Maryland required reading course I, content-specific advancement aligned to state MCCRS standards, and principles and practices of co-teaching; (2) Term 2 focuses on content-specific methods in addressing MCCRS and Maryland required reading course II; (3) Term 3 focuses on classroom management, student assessment in alignment to MCCRS, and Maryland reading courses III and IV (Elementary only), and specialized instructions and alternate assessments for students with disabilities and limited English proficient learners; (4) Term 4 focuses on principles of research and practice, and advanced integration of learning and assessment technologies to engage and support individualized learning; and (5) Term 5 focuses on advanced instructional practices and integrated early induction with LEA-specific teacher induction protocols, district-specific instructional priorities, and school-specific initiatives.

**(ii) Intensive and Extensive Teaching Residency for Pedagogical Mastery.** Building upon evidence-based practices, the MA programs provide highly structured and well-supported co-teaching residencies for pedagogical mastery. The intensiveness and extensiveness are reflected in the purposeful design and thoughtful execution of 168 days in residency, which is 68% greater than the current State requirement of a 100-days internship. The TRs will be engaged in high-leverage practices with support from mentors, university supervisors, and instructional coaches: (1) Term 1 focuses on co-teaching processes and strategies (Cohen,

Hoffman, & Brennan, 2014; Murawski, 2012; Sileo & van Garderen, 2010; and CEC, 2014); (2) Term 2 focuses on observing and assisting progression with gradual release instructional framework toward joint responsibility of co-teaching; (3) Term 3 focuses on content-specific co-teaching in addressing MCCRS and LEA instructional priorities, and on specialized instructional support for students with disabilities and limited English proficient learners, (4) Term 4 engages TRs to develop as teaching scholars through action research with targeted data analysis for informed instructional practices, and (5) Term 5 includes full-time co-teaching with additional early induction support from school mentors, LEA instructional coaches, and MA experts.

*(iii) Specialized Teaching Competencies for Inclusive Excellence.* Building upon the partnership needs of preparing and retaining culturally responsive teachers, the MA programs provide innovative rural-urban *Clinical Rounds* and *Clinical Rotations* with specialized competencies for inclusive excellence. The *Clinical Rounds* are day-long field experiences in which TRs engage in local communities and schools to better understand local culture and develop regional sensibilities. The Clinical Rounds Observational Framework focuses on four areas (1) Cultural identity, (2) Influence of culture on student learning, (3) Influence of culture on instructional decisions, and (4) Strategies that promote inclusive learning environments. The *Clinical Rotations* are week-long micro-immersion experiences in which TRs engage in residential internships at school settings that are significantly different from their institution. Specifically, the rural TRs will be placed in and supported by mentors and IHE faculty at MA's urban professional development partnership schools. Clinical Rotations Assessment Framework focuses on 4 areas (1) Designing coherent instruction, (2) Creating powerful learning environments, (3) Implementing effective instruction, and (4) Assuming professional responsibilities. The Clinical Rounds and Clinical Rotations have been tested in the past 3 years

**Table 4: Maryland Accelerates: Teaching Residency Program Structure, Timeline, and Requirements**

Cohort-Based Progression in Professional Development Partnership Schools

Summer I June-Aug. (12 Credits)	Fall I Aug.-Dec. (12 Credits)	Spring Jan.-May (9 Credits)	Summer II June-July (6 Credits)	Fall II Sept.-Dec. (3 Credits)
<b>1. INTEGRATED CURRICULUM FOR CONTENT MASTERY (42 CREDITS)</b>				
<ul style="list-style-type: none"> <li>■ Educational Foundations and Child Development</li> <li>■ Reading/REED I (All Programs)</li> </ul>	<ul style="list-style-type: none"> <li>■ Content-Specific Methods</li> <li>■ Reading/REED II (All Programs)</li> </ul>	<ul style="list-style-type: none"> <li>■ Classroom Management &amp; Assessments</li> <li>■ Reading/REED III (ELEM only)</li> </ul>	<ul style="list-style-type: none"> <li>■ Principles of Research &amp; Practice</li> <li>■ Integrated Technology</li> </ul>	<ul style="list-style-type: none"> <li>■ Proseminar: LEA-Specific Induction and Teacher Professional Development</li> <li>■ Other Courses as Needed</li> </ul>
<b>2. INTENSIVE AND EXTENSIVE TEACHING RESIDENCY FOR PEDAGOGICAL MASTERY (168 DAYS IN SCHOOL)</b>				
<ul style="list-style-type: none"> <li>■ Co-Teaching Principles and Strategies</li> <li>■ <i>Clinical Rounds</i> for Micro-Immersion in Local Communities</li> </ul>	<ul style="list-style-type: none"> <li>■ Co-Teaching in Licensure Area (2 day/week, 30 total)</li> <li>■ Support for Student w/ Disabilities and ELL</li> <li>■ Mentor by Master Teachers and University Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>■ Co-Teaching in Licensure Area (3 day/week, 63 total)</li> <li>■ Support for Student w/ Disabilities and ELL</li> <li>■ Mentor by Master Teachers and University Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>■ Action Research w/ Data Analysis</li> <li>■ EdTPA</li> </ul>	<ul style="list-style-type: none"> <li>■ Co-Teaching in Licensure Area (5 day/week, 75 total)</li> <li>■ Mentor by Master Teachers and University Supervisor</li> <li>■ <i>Urban-Rural Clinical Rotations</i></li> </ul>
<b>3. SPECIALIZED TEACHING COMPETENCIES FOR INCLUSIVE EXCELLENCE</b>				
<ul style="list-style-type: none"> <li>■ High Leverage Practices (HLPs) w/ foci on Culturally Responsive Teaching (CRT)</li> </ul>	<ul style="list-style-type: none"> <li>■ Computational Thinking (CT)</li> <li>■ HLP w/ Foci on CRT</li> </ul>	<ul style="list-style-type: none"> <li>■ Mathematical Problem Solving (MPS)</li> <li>■ HLP w/ Foci on CRT</li> </ul>	<ul style="list-style-type: none"> <li>■ Action Research w/ Data Analysis</li> </ul>	<ul style="list-style-type: none"> <li>■ CT and MPS</li> <li>■ HLP w/ Foci on CRT</li> </ul>
<b>4. COMPREHENSIVE ASSESSMENTS AND COMPETENCY-BASED MICROCREDENTIALING</b>				
<ul style="list-style-type: none"> <li>■ Grades &amp; Key Assessments</li> <li>■ Clinical Rounds Reflection</li> </ul>	<ul style="list-style-type: none"> <li>■ Grades &amp; Key Assessments</li> <li>■ Residency Evaluation I</li> </ul>	<ul style="list-style-type: none"> <li>■ Grades &amp; Key Assessments</li> <li>■ Residency Evaluation II</li> </ul>	<ul style="list-style-type: none"> <li>■ Grades &amp; Key Assessments</li> <li>■ EdTPA</li> <li>■ Licensure Exam</li> </ul>	<ul style="list-style-type: none"> <li>■ Grades &amp; Key Assessments</li> <li>■ Residency Evaluation III</li> <li>■ Clinical Rotations Reflection</li> <li>■ Teacher Induction Reflection</li> </ul>
<ul style="list-style-type: none"> <li>■ MicroCredentials in High Leverage Practices I</li> </ul>			<ul style="list-style-type: none"> <li>■ MicroCredentials in Computational Thinking</li> </ul>	
<b>MA TEACHING-RESIDENCY EXIT AND EARLY CAREER REQUIREMENTS</b>				
<p><b>Teaching-Residency Program Exit Requirement</b></p> <ul style="list-style-type: none"> <li>■ Successful (1) participation in cohort-based progression in Professional Development Partnership Schools Network (PDPSN); (2) completion of required courses (42 credits) with grades B or above for each class; (3) completion of 168 days of residency experiences with assessment at a minimum of proficient level; (4) completion of MA MicroCredentials in HLP I and in CT; (5) completion of Clinical Rounds and Clinical Rotations; (6) completion of EdTPA and Action Research; and (7) completion of State Licensure Exam PRAXIS II. Upon successful completion, participant will receive a MAT degree and teacher licensure in specialized area of Sciences, Math, Computer Science, English or Elementary Education.</li> </ul> <p><b>Early Career Requirements</b></p> <ul style="list-style-type: none"> <li>■ Three-year teaching commitment in partnership LEAs and continuing engagement in the MA Networked Improvement Communities.</li> <li>■ Two-year induction with support through professional development, mentoring/coaching, and MicroCredentiaing for recertification and career advancement.</li> </ul>				

through the current initiative (TQP, 2016-2021) at multiple IHEs and LEAs. The early results reflect positive influences based on assessments conducted by participants and mentors, and evaluations and observations conducted by an external agency. Collectively, the TRs will have multiple opportunities to learn and practice four MA specialized competencies as listed below.

*Computational Thinking (CT).* The core concepts and practices of computing are powering innovation and improvement at an unprecedented pace across personal, societal, and global levels. However, unequal access to computer science instruction and opportunities to engage in computational thinking and practices remain prevalent (Google & Gallup, 2015; College Board, 2016). Currently, only one-third of Maryland students have access to high quality computer science courses (MCCE, 2018). To increase opportunities and competencies, TRs will be engaged in instructional practices on CT Core Concepts and Core Practices set forth by the Maryland Technology Education Standards (MSDE, 2016), and articulated in the *K–12 Computer Science Framework* (K12CS.Org, 2016 ). CT refers to inquiry processes involving formulating problems and solutions as computational steps that can be carried out by a computer (Cuny, Snyder, & Wing, 2010; Aho, 2011; Lee, 2016). CT processes involved critical skills such as logical thinking, data analysis, and problem-solving using algorithms. It further encourages social-emotional development in addressing complex and open-ended problems in real-world settings. While CT is essential to the development of computer applications, the methods and skills involved can be used to support scientific inquiry and problem solving across disciplines (K12CS.Org, 2016; Change of Equation, 2015).

*Mathematical Problem Solving (MPS).* Achievement gaps in mathematics and its impact on schooling and subsequent career success have been widely studied. The National Council of Teachers of Mathematics (NCTM) asserted that “Differential access to high-quality teachers,

instructional opportunities to learn high-quality mathematics, opportunities to learn grade-level mathematics content, and high expectations for mathematics achievement are the main contributors to differential learning outcomes among individuals and groups of students” (NCTM, 2012). To address LEAs priorities, TRs will be engaged in MPS instructional practices drawn directly from research that meets WWC design standards (Woodward et al. 2012). The practices are based on studies that directly tested the effectiveness of monitoring and reflecting on the problem-solving process and consistently found positive effects on student achievement among diverse student samples. The MA targeted instructional strategies are (1) Assisting students in monitoring and reflecting on the problem-solving process; (2) Teaching students to use visual representations to solve problems; and (3) Helping students make sense of algebraic notation.

*High-Leverage Practices (HLPs)*. “A high-leverage practice is an action or task central to teaching” (TeachingWorks, 2012). Building upon extensive research and the current partnership between TeachingWorks and the USM, the TRs will be engaged in intensive and extensive guided practices with access to HLP media library and instructional materials; and will be expected to demonstrate competency mastery in two domains of HLPs: (1) *High-Leverage Instructional Practices* are high-frequency teaching skills and behaviors used across subject areas, grade levels, and contexts. They are critical to helping students learn content and supporting students’ social and emotional growth. Examples include recognizing common patterns of students’ thinking; conducting a whole class discussion; building relationships with students; choosing representations and examples; and assessing students’ learning; and (2) *High-Leverage Contents* are “particular topics, practices, and texts that are both foundational to the K-12 curriculum and important for beginning teachers to be able to teach.” Examples of high-leverage content in mathematics include place value, number concepts and operations, fractions,



and representing and explaining mathematical ideas and relationships.

*Culturally Responsive Teaching (CRT).* To increase their effectiveness in serving students from diverse cultures, the TRs will engage in practices that cultivate cultural competencies and growth mindset for inclusive excellence. In a broad educational context, cultural competence centers on the knowledge, skills and professional dispositions to effectively serve students from diverse cultures (NEA, 2008). Research studies have shown how culturally competent educators are better equipped to engage student learning through contextualization, to help address achievement gaps through differentiated and/or specialized instructions, and to reach out to students' families toward improving student engagement and achievement (Moule & Diller, 2012; US Department of Education, 2007; Gay, 2000; NEA, 2008; and Sheridan, 2006). With regards to non-cognitive development and social-emotional growth, recent research in grit, growth mindset, and social-emotional learning (Duckworth, 2016; Dweck, 2006; Taylor et al, 2017) provides promising insights on characteristics correlated to student achievement and success.

***(iv) Comprehensive Assessment with Competency-Based Credentialing.***

*Residency Formative Assessment through Regionally-Validated CFAST Instrument.*

Candidate Preservice Assessment of Student Teaching (CFAST) is a valid and reliable formative and summative assessment developed by the Ohio State University (Kaplan, Brownstein, & Graham-Day, 2017). CFAST has been further reviewed locally by a collection IHEs within the University System of Maryland. The assessment will be conducted by the university supervisors, the P-12 mentors, and the candidates in the form of self-evaluations. The 360-degree approach enables multiple perspectives that support TRs' growth in and over time.

*Residency Summative Assessment through Nationally-Validated EdTPA and Praxis II Licensure Exams.* Developed by SCALE at Stanford University, EdTPA is a standards-based,



subject-specific performance assessment for beginning teachers. Intended to be used as a summative assessment, edTPA is used in 41 states and with membership of 790 educator preparation programs (EdTPA, 2017). Advanced video recording and annotation of lessons taught by TRs will be part of the required evidence documenting competencies. *Praxis II* exams are state licensure requirements and will be included as a program exit requirement.

*Competency-Based MicroCredentialing.* To significantly strengthen teachers' knowledge and skills to positively impact P-12 student learning, candidates will complete the *MicroCredential in Computational Thinking* and the *MicroCredential in High Leverage Practices I*. Within the current time-based educational framework, mastery of expected learning outcomes is a persistent variable rather than a constant factor of learner success. To ensure mastery, the MicroCredentials are granted based on competencies rather than the traditional concept of "seat time" (CLASP, 2015; Seymour et. al., 2015; Finkelstein et. al., 2013). Building upon extensive research with multi-agency implementation through the current TQP work (2016-2021), the MA MicroCredentialing model includes 3 key characteristics: (1) Learning ecosystem designed through the 3Hs: High-Tech, High-Touch, and High-Impact principles; (2) Learning experiences anchored by the 3Cs: Curriculum, Co-Curricular, and Community; and (3) Learning outcomes measured through the 3Es: Engaging Self, Engaging Others, and Engaging in Diverse Communities. Specifically, each of the MA MicroCredentials include 3 sections: (1) *Engaging Self*: a theoretical learning unit with foci on cognitive development for deep learning, (2) *Engaging Others*: a field-based audit in the classroom or community with foci on intra-personal development, and (3) *Engaging in Diverse Communities*: a project-based learning unit with foci on inter-personal development through demonstration of competency-mastery and documentation of impact on K-12 student learning (Appendix J3; Huang, 2017). The rigorous experience in a

networked learning environment will demand that TRs serve as knowledge generators in classrooms and change makers in communities.

### ***B.3 Goal 3: Accelerated Teacher-Leader Pathways with Two-Year Induction***

Leveraging interests in the teacher career advancement continuum among governing, regulatory, and educational agencies in Maryland, the IHE/LEA partners will co-implement innovative *Educator Career Ladders* for new and experienced teachers. The objectives are to (1) improve teacher effectiveness, increase teacher retention, and accelerate teacher leadership advancement through sustained professional development with personalized mentorship; (2) improve teacher performance and student learning through evidence-based practices with competency-based documentation through MicroCredentials for re-certification, career advancement, and movement toward National Board Certification (NBC). The short-term goals are to build infrastructures and capacities for co-design of the 2-year induction. The mid-term goals are to co-implement and evaluate the induction program within the *Educator Career Ladders*. The long-term goals are to demonstrate movement toward institutionalization and test MA strategies for scaled implementation and replication, particular in high-need communities (Figure 1 & Table 1). Building upon Standards for Professional Learning (Learning Forward, 2011), the induction will include (1) intensive and extensive professional development, (2) regular and sustained mentoring, and (3) competency-based demonstration in Networked Improvement Communities (NIC).

#### ***B.3.a High-Quality Professional Development for Competency Mastery***

In direct support of LEA hiring and student needs, the MA program will facilitate placement of graduates, *Teaching Fellows* (TFs), who have demonstrated competency mastery, deep familiarity of LEA-specific instructional priorities, and commitment to teaching high-need

students. To increase teacher effectiveness and retention, the partners will co-implement professional development addressing LEA priorities with MA specialized competencies.

*High-Leverage Practices (HLPs).* Building upon extensive research and the current partnership between TeachingWorks and the USM, TFs will continue to engage in intensive and extensive guided practices with access to HLP media library and instructional materials; and will be expected to demonstrate competency mastery in two domains (1) *High-Leverage Instructional Practices*, and (2) *High-Leverage Contents*. Among the 19 HLPs, the TFs will focus on 3 specific areas as highlighted in the ETS NOTE interactive assessment: (1) HLP on modeling and explaining content; (2) HLP on leading group discussion; and (3) HLP on eliciting student thinking (Witherspoon & Bell, 2016; Qi & Sykes, 2016; Stickler & Sykes, 2016). To further support TFs working with students in high-need schools, the framework for *Preparing Educators for High Poverty/Culturally and Linguistically Diverse Schools* (MSDE, 2014), as well as specialized instructions and alternate assessments for students with disabilities and limited English proficient learners, will be integrated in MA activities. Mastery of competencies will be accessed through the MA *MicroCredential in High Leverage Practices II*.

*Teacher Leadership Development.* The role of teachers in school leadership is strongly related to student achievement (Ingersoll et al., 2018). In the analysis of the Teaching, Empowering, Leading, and Learning (TELL) Survey with data from nearly 900,000 teachers in 25,000 public schools in 16 states, Ingersoll and team summarized that “the degree of both instructional leadership and teacher leadership in schools is strongly related to performance of schools.” The findings echo the MCIEE recommendation to create career ladders and new leadership development systems to advance school management, teacher professionalization, and student achievement (MCIEE, 2019). The MA Teacher-Leader development will thus consist of

two key components: (1) *Instructional Leadership* will focus on (a) holding teachers to high instructional standards, (b) providing an effective school improvement team, and (c) fostering a shared vision for the school; and (2) *Teacher Leadership* will focus on (a) teachers' roles in establishing student discipline procedures and (b) teachers' roles in school improvement planning (Ingersoll et al, 2018). The MA *MicroCredential in Leadership* will document competency mastery.

### ***B.3.b Strategic Mentoring in a Networked Improvement Community***

While data indicated that induction can help retain teachers, improve instruction, and enhance student achievement, the outcome and impact of programs varies depending on the quality, intensity, and duration of the support (Ingersoll & Strong 2011; Ingersoll, 2016). Building upon the research findings from 15 empirical studies and promising practices from New Teacher Center (Ingersoll & Strong 2011; NTC, 2017 & 2018), the MA induction will focus on:

*Highly Structured Mentoring.* Strategic and sustained mentoring and coaching will be provided by LEA coaches, IHE faculty, and MA *Teacher-Leaders* (TLs) serving as mentors. Mentoring will target professional engagement with practical skills on teaching and the teaching profession (NEA, 1999; NTC 2017). Instructional coaching will target the MA specialized competencies areas (1) High-Leverage Practices, (2) Culturally Responsive Pedagogies, (3) Mathematical Problem Solving, and (4) Computational Thinking. Dialogue and feedback will be conducted through the MA Blackboard Communities, virtual and in-person observations, the face-to-face meetings, and the annual MA Leadership Institute.

*Dedicated Time for Growth.* The TFs and TLs will engage in structured time throughout the academic year to engage in support and services provided through weekly mentoring and coaching activities. The design of dedicated time is based on research finding that the most

effective mentoring models include greater frequency and greater length (1.5Hrs to 2.5Hrs) of contact between mentor and mentee for observation and discussion on a weekly-basis (NEA, 1999; NTC, 2017; Ingersoll & Strong, 2011). The TFs will receive a minimum of 2.5 hours of dedicated time per week to participate in mentoring and coaching activities, and to engage in the MA Networked Improvement Communities. A minimum of 1.5 hours will be dedicated for in-person activities such as mentoring, coaching, and/or co-planning.

### ***B.3.c Comprehensive Assessment and Competency-Based Credentialing***

*MA Observation and LEA Teacher Evaluation.* Formative assessments will be conducted by mentors and University Supervisors through locally developed observational tools aligned to the MA specialized competency areas. Results from Clinical Rotations, a rural-urban micro-immersion experience, will serve as the second set of assessments. LEA-specific Teacher Evaluation will serve as the third set of assessments. The LEA Teacher Evaluation reflects district priorities and alignment to the Framework for Teaching as “a research-based set of components of instruction, aligned to the INTASC standards, and grounded in a constructivist view of learning and teaching” (Danielson, 2013).

*Competency-Based MicroCredentials.* To strengthen teachers’ effectiveness and impact on P-12 student learning, TFs will be expected to complete *MicroCredential in High-Leverage Practices II* and *MicroCredential in Teacher Leadership*. Each MicroCredential include (1) a theoretical learning unit for deep learning, (2) a field-based audit in a classroom or community, and (3) a project-based learning documenting professional competencies and impact on student learning (Appendix J3). The MicroCredentials will be reviewed by LEAs and MSDE for Continuing Professional Development credits. As part of the *Educator Career Ladders*, the documented competencies and impact on student learning will serve as evidence toward National

Board Certification with incentive for career advancement and salary increase (MCIEE, 2019).

### ***B.3.d Maryland Accelerates Leadership Institute***

To ensure professional engagement in *Networked Improvement Communities*, the TRs, TFs, and TLs will participate in MA Leadership Institute. The three-day institute is designed as intensive professional development on MA competency areas and with key foci on analysis of LEA and State assessments for data-informed and evidence-based practices (DeMonte, 2013). The last day of the Institute will serve as an annual convening among all participants to share lessons learned and promising practices resulting from the MA program. Inputs, outputs, outcomes, and implications will be shared for continuous improvement.

### ***B.3.e IHE Faculty and PDS Mentor Training***

To ensure high quality support and services that are aligned to LEA needs and MA goals, a 2-day intensive training and a 3-day Leadership Institute will be held each year for IHE faculty, mentors/coaches, and LEA leaders. *Evidence-Based Instruction and Teacher Induction* (AIR, 2015), *Mentor Practice Standards* (NTC, 2017), and *Instructional Coaching Practice Standards* (NTC, 2018) will be used. State required reading, literary, mathematical, and specially designed instructions as well as formative, summative and alternate assessments for student with special needs will be addressed. Periodic observations and mentor evaluations will be conducted by MA team to ensure quality and fidelity. Compensations such as earning of CPDs, MicroCredentials, stipends, and release time, as appropriate, will be provided to support substantial participation.

## **C. The extent to which the proposed project is designed to build capacity and yield results that will extend beyond the period of Federal financial assistance.**

### ***C.1 Capacity and Linkage Building for Sustainable Improvement***

The MA goals and strategies are based on the theories and practices of capacity and

linkage building (Spillane & Thompson, 1997; Fullan & Stielgelbauer, 1991). The *Accelerated MegaCommunity* (Goal 1) maximizes collective expertise and resources that build individual, institutional and community capacities. The *Accelerated Teaching-Residency* (Goal 2) and the *Accelerated Teacher-Leader Pathways* (Goal 3) are designed to strengthen the individual capacities of aspiring and new teachers. The co-construction and co-delivery of shared curriculum, instruction, and assessment are designed to build institutional capacities among IHE and LEAs. Collectively, the three MA innovations serve to unify efforts across sectors and levels of schooling in addressing critical needs to improve teacher effectiveness and student achievement in high-need schools.

### ***C.2 Commitment, Accountability, and Sustainability***

The strategic partnerships are built upon shared organizational commitments to improving teacher effectiveness and student achievement. The enthusiasm and commitment through human capital, social capital, and financial resources with 100% match funding are reflected in the supporting letters and project design (Appendix I). The MA goals and strategies are directly aligned with institutional, state, and national standards, and are crafted to directly support LEA-specific needs and priorities. Such intentional alignments are designed to ensure organizational support with sustainable operations during and beyond the grant period.

The intent for institutionalization is explicitly stated in the objectives for each of the three innovations with integrated processes and strategies (Tables 1, 6 & 7). To facilitate institutionalization and ensure stewardship of the TQP funding, a MA Executive Committee will be established as part of the *MegaCommunity*. The Executive Committee with IHE, LEA, and PDPSN partners will develop action plans on how the MA innovations can be sustained beyond the grant period through appropriated, reallocated, and/or leveraged private and state funds. To

maximize resources and increase return on investments, the MA further employs a range of cost-effective strategies such as the development of shared instructional materials and assessments, effective use of local and regional facilities, common placement protocols and operations, and innovative use of technology for scalable delivery.

### ***C.3 Collaborative Approach toward R&D through Shared Resources and External Funding***

With the overarching goal of making excellence inclusive, the MA research and development (R&D) agenda was created by the PI with extensive collaboration among IHEs, LEAs, P-12 Schools, and industry partners beginning in fall 2015. The R&D portfolio, thus far, includes various initiatives funded by state, federal, and private agencies. Leveraging promising practices, long-standing partnerships, and shared resources among partnering agencies, the MA program, as proposed in this TQP application, is designed specifically to build systemic capacities in high-need rural communities through teacher-leader residency with career advancement pathways for inclusive excellence.

Building upon current efforts and early successes, the MA team is poised to extend current research and execute project plans to achieve the stated goals within the grant period. The MA team will actively seek additional private and public funding to refine and validate the MA model for high-need schools. The larger vision, building on and extending beyond the immediate scope of the proposed TQP project, is to establish a national *Networked Improvement Communities for Inclusive Excellence* among IHEs and LEAs serving high-need rural and urban communities. Through the establishment of a coherent R&D agenda, shared goals, common expectations, and leveraged resources, the MA aspires to simultaneously increase the quality and value of education, while enhancing access and success for inclusive excellence.

### ***C.4. Educator Career Ladders for Maryland's Future***



The development of career ladders for teachers and school leaders has been identified as a key state strategy to significantly improve teacher quality (MCIEE, 2019; Senate Bill 1030; House Bill 1413). The Blueprint for Maryland’s Future proposed a set of state level parameters with standards for advancement and guiding principles for compensating teachers and school leaders. The proposed ladders will include two tracks: Teacher Leadership Track and Administrative Track. Specifically, the Teacher Leadership Track will include (1) Level 1: State Licensed Teacher, (2) Level 2: Teacher pursuing a master’s degree or National Board Certification (NBC), (3) Level 3: Teacher with Advanced Professional Certificate or with NBC, (4) Level 4a-c: Lead Teacher, Master Teacher, and/or Professional Master Teacher. It is proposed that after 5 years of enactment of legislation implementing a career ladder, all new teachers must participate in Educator Career Ladders. The MA *Teacher-Leader Pathways* (Goal 3) is thus designed to support LEAs in building capacities for designing and implementing districts’ Educator Career Ladders. Specifically, the MA will support new teachers in earning a master’s degree and in demonstrating movement toward NBC through MA MicroCredentials aligned to the NBPTS core propositions (NBPTS, 2016). MA will further support mentor teachers pursuing Levels 3 and/or 4 through professional development and MA MicroCredentials.

**D. The extent to which the proposed project represents an exceptional approach for meeting statutory purposes and requirements.**

***D.1 Exceptional and Innovative Approaches toward Inclusive Excellence***

Recognizing the urgent needs to make excellence inclusive, the MA is designed to simultaneously build region-wide capacities in delivering high-impact educational services while improving teacher competencies necessary to support all students in high-need LEAs. Using co-constructive approaches to leverage cross-organizational expertise and resources, the MA model

encourages simultaneous renewal and reciprocal transformation across its *Networked Improvement Communities* (Table 1 & Figure 1) with joint commitment and shared accountability. The MA design reflects exceptional approaches in addressing statutory purposes and requirements toward sustainable improvement of teacher preparation, teacher effectiveness, and teacher retention leading to positive impact on student learning and achievement.

Scientifically validated approaches and evidence-based practices are evidenced in the rigorous career-wide support structure in the areas of (1) Partnership and Program Sustainability, (2) Recruitment and Selection, (3) Residency Year Experience, and (4) Graduate Impact (Table 2).

The *Accelerated MegaCommunity* (Goal 1) maximizes collective expertise and resources through development of common goals, joint processes, shared strategies, and leveraged resources that build individual, institutional and community capacities. The IHE/LEA joint commitment and investment in teacher-leader pathways, particularly in critical shortage areas, are strong indicators for institutionalization and sustainability during and beyond the granting period. The *Accelerated Teaching Residency* (Goal 2) incorporates exceptional approaches inclusive of 168 days of intensive residency, 42 credits of integrated curriculum, innovative urban-rural Clinical Rotations, and comprehensive assessments combining nationally validated tests and competency-based MicroCredentials documenting content and pedagogical mastery in respective licensure areas, as well as mastery in Computational Thinking, Mathematical Problem Solving, Culturally Responsive Teaching, and High Leverage Practice across disciplines. Similarly, the *Accelerated Teacher-Leader Pathways* (Goal 3) incorporates exceptional approaches inclusive of a 2-year induction with high-quality and targeted professional development, sustained mentoring and strategic coaching, innovative rural-urban Clinical Rotations, and comprehensive assessments with MicroCredentials validated for career

advancement within the LEA employment structure and serving as evidence toward National Board Certification. The sustained engagement in the *Networked Improvement Communities* (Figure 1) among new and experienced teachers are specifically designed to increase teacher engagement, encourage promising practices, enhance teacher satisfaction, and improve teacher retention leading to positive impacts on student learning and achievement.

### ***D.2 Strategic Partnerships for Scalable Implementation and Sustainable Improvement***

The collaborative MA governing structure and processes (Section IV) are designed to strengthen IHE-LEA community-wide capacities by (1) removing common organizational and operational barriers such as recruitment, retention, and support for career success; (2) improving P-20 alignments of curriculum and assessment with internationally benchmarked MCCRS; and (3) enhancing evidence-based practices toward improved student learning outcomes as measured through LEA and State assessments as well as MA evaluations. The three MA innovations provide high-tech, high-touch, and high-impact services for (1) candidates who otherwise would not have the opportunity to pursue and engage in a high-quality program that prepares them to teach in high-need schools; (2) new teachers who otherwise would have limited access to high-quality professional development in a networked improvement community that supports diversity and inclusion; (3) high-need LEAs in rural settings who otherwise would not have the sole capacity and resources for systemic transformation; and (4) P-12 students in high-need, low-performing rural schools who otherwise would have limited access to high-quality instruction taught by highly effective and diverse teachers. Collectively, the three MA innovations serve to unify efforts across sectors and levels of schooling in addressing the critical needs of improving teacher effectiveness, community engagement, and student achievement.

### ***D.3 Thoughtful Partnerships to Narrow Opportunity and Achievement Gaps***

The powerful partnerships have been established to address TQP program priorities and statutory requirements. The MA team jointly conducted needs assessment to determine programs and services that address LEA and student needs (Appendix C).

*Frostburg State University (FSU)*. Founded in 1898 to prepare teachers, FSU is a public, comprehensive, largely residential regional university located in the rural area of western Maryland. With an enrollment of 5,294 in 2018, FSU serves regional economic and workforce development, promotes civic responsibility and sustainability, and prepares future leaders to meet the challenges of a complex global society. The College of Education (COE) offers 14 diverse programs and works closely with the College of Liberal Arts & Sciences (CLAS) in its operations of all teacher and administrator licensure programs. The collaborative operations among COE and CLAS have been institutionalized through the P20 Executive Advisory Council. MA operations will meet all policies and practices with faculty from CLAS as content experts.

*Frederick County Public Schools (FCPS)* is located in rural Maryland, serving 41,317 students with 1889 teachers. *Garrett County Public Schools (GCPS)* is a small LEA located in rural Maryland serving 3,833 students with 193 teachers. Each of these LEAs has been declared by the MSDE as a geographic area with a projected shortage of certified teachers. The areas of Science, Math, English, Computer Science have also been declared as areas of critical teacher shortages (MSDE, 2016-2018 Teacher Staffing Report). The 2018 data reflect significant academic achievement gaps among economically disadvantaged students and students with disabilities in each of the LEAs (Table 5). The student achievement gaps reflected the continuing trend shown in a state-wide analysis of 43,818 Teacher Effective Ratings (MSDE, 2015). Key findings include (1) students in high poverty schools are four times more likely to have an ineffective teacher, (2) students in high minority schools are five times more likely to have an ineffective teacher, (3)

Students in high poverty/high minority schools are nine times more likely to have an ineffective teacher; (4) inexperienced teachers in low poverty/minority schools are four times more likely to be rated highly effective than are inexperienced teachers in high poverty/minority schools; and (5) instructional delivery is the dominant contributor to differentiating Highly Effective Professional Practice. A 2018 study further indicated that the percentage of inexperienced teachers in Maryland is at 15.7% in comparison to 12.7% in the nation; uncertified teachers is at 3.4% in comparison to 2.6% in the nation; and uncertified teachers in high minority schools is at 8.61% in comparison to 4.75% in the nation (Learning Policy Institute, 2018). The key findings are confirmative of the needs for high-impact interventions to better prepare aspiring and better support novice teachers, particularly in high-need schools.

**Table 5: Academic Achievement Summary at Partnering LEAs**

GARRETT COUNTY PUBLIC SCHOOLS		FARM*	Math Proficient** (Elem/Middle/High)	English Proficient** (Elem/Middle/High)
a.	GCPS County Wide FARM	46.93%		
b.	GCPS County Wide		31% / 37% / 49.5%	37.2% / 36.8% / 62.8%
c.	GCPS Economically Disadvantaged		16.1% / 18.5% / 26.8%	21% / 21.8% / 52.4%
d.	GCPS Students with Disabilities		13.5% / 13.5% / 11.8%	10.4% / 10.8% / 10.5%
FREDERICK COUNTY PUBLIC SCHOOLS		FARM*	Math Proficient** (Elem/Middle/High)	English Proficient** (Elem/Middle/High)
a.	FCPS County Wide FARM	25.64%		
b.	FCPS County Wide		52.8% / 47.9% / 59.5%	51.6% / 54.3% / 67%
c.	FCPS Economically Disadvantaged		26.1% / 19.5% / 30.5%	29.1% / 28.4% / 40.7%
e.	FCPS Students with Disabilities		17.7% / 9.9% / 16.4%	15.1% / 10.4% / 19.4%

\*Source: Maryland State Department of Education FARM 2018-2019

\*\*Source: Maryland Report Card, 2018

### III. ADEQUACY OF RESOURCES

**A. The adequacy of support, including facilities, equipment, supplies, and other resources, from the applicant organization or the lead applicant organization.**

#### *A.1 Common Goals and Leveraged Resources for Successful Implementation*

The commitment to making excellence inclusive among the partnering agencies are reflected in the leveraged physical resources as well as human and social capitals with 100% match funding. To build capacities for sustainable improvement, each of the agencies has provided a letter of support and a letter of commitment for matching funds (Appendix I).

*Physical Resources.* As accredited agencies, the IHE and LEA partners have demonstrated the adequacy of facilities, materials, equipment, and educational resources necessary to effectively support the MA initiative. FSU, as the lead agency, is the anchoring institution in rural western Maryland with state-of-the-art facilities inclusive of instructional, research, recreational, and residential buildings. The 260-anchor main campus houses multiple educational centers and learning laboratories, supports a vibrant campus life, and is equipped with advanced technologies for 21<sup>st</sup> century education. To ensure cross-regional support and collaboration, the facilities at University System of Maryland at Hagerstown (USMH) and its campus resources, including instructional, laboratory, technology, and meeting facilities will also be utilized to support the delivery of MA activities. The dynamic learning and assessment system, Watermark, at FSU will be used to support the innovative competency-based MA MicroCredentials for participating residents, new teachers, and mentoring teachers. The Professional Development Partnership School Networks across LEAs will be utilized to deliver the intensive teacher-leader residency and induction programs.

*Human and Social Capitals.* Tapping into the power of many, the MA leverages expertise and support from its *Accelerated MegaCommunity* with in-kind contributions from IHE researchers, teacher educators, district leaders, school administrators, experienced mentor teachers and coaches, the university system-wide P-20 council, state-wide policy makers, as well as professional groups and industry leaders. The in-kind contributions of the core partnership are

documented in the commitment letters and articulated in the budget and its narrative. Integrated funding of non-federal sources has been infused throughout. For example, year 1 will include an USM grant to develop new MAT program in Computer Science (2019-2020). The synergistic combination of leveraged expertise, shared resources, and common strategies for teacher-leader advancement are designed to ensure achievement of goals on time and within budget.

**B. The relevance and demonstrated commitment of each partner in the proposed project to the implementation and success of the project.**

***B.1 Co-Construction and Co-Implementation toward Common Goals***

The MA initiative is built upon the core principles of shared governance among partners with defined mutual accountability (Table 6); and is created to encourage simultaneous transformation through co-construction and co-implementation of policies, processes, and practices for sustainable improvement. The MA goals and strategies are directly aligned with institutional, state, and professional standards, and are crafted to directly support LEA-specific hiring needs and instructional priorities. Such intentional alignments are designed to ensure relevancy with organizational support for sustainable operations during and beyond the grant period. The intent for institutionalization is explicitly stated in the objectives for each of the 3 innovations (Tables 1). To facilitate institutionalization and ensure stewardship of the TQP funding, a comprehensive management plan (Table 6) and a comprehensive assessment plan (Table 7) have been created with specified objectives, timelines, benchmarks, and responsibilities to ensure achievement of goals on time and within budget.

The MA partners have a long-standing reputation of success in sharing expertise and resources to support academic and community development activities within the PDPSNs. Building upon existing collaborative efforts and the 100% match funding (Appendix I), the MA

is well-positioned to leverage resources and maximize social benefit, collective impact, and economic return. The processes and strategies of co-design, co-implementation, and co-evaluation reflect shared commitment toward increasing teacher supply and effectiveness while narrowing student opportunity and achievement gaps in high-need schools. As an example, the co-development of the *Educator Career Ladders* with common expectations and measures for teacher-leader development is a strategic effort to build capacities and infrastructures for sustained improvement during and beyond the grant period. To maximize resources and increase return on investments, the MA further employs a range of cost-effective strategies. These include, among others, the development of shared instructional materials and assessments, effective use of local and regional facilities, common placement protocols and operations, and innovative use of technology for scalable delivery. Similarly, rigorous training and ongoing support will be provided for participating mentors, coaches, school administrators, and LEA leaders to ensure relevancy and fidelity of implementation while building human and social capitals for sustainable advancement.

## ***B.2 Adequacy of Resources, Cost Effectiveness, and Operational Efficiency***

Increasing efficacy and effectiveness are the underlying premises for MA innovations. The costs as defined in the Budget Narrative are adequate in relation to the requirements of the 3 MA goals and objectives. The costs reflect specific front-end investments in building capacities to design and deliver the *Accelerated Teaching Residency* and *Accelerated Teacher-Leader Pathways* with shared operational protocols, recruitment and retention strategies, pathways toward Education Career Ladders, data collection processes, and contents and assessments, as well as validation of MicroCredentials in a dynamic learning environment powered by advanced technologies. To ensure recruitment of and support for diverse candidates with strong content



backgrounds, competitive living stipends for TRs and stipends for mentors have been included. Training stipends for new teachers and mentoring coaches during induction have also been budgeted to ensure substantial participation.

This front-end investment will enable low-cost and high-impact strategies for rapid and scaled implementation within and beyond the grant period. The value and return on investment is further justified in relation to (1) the establishment of Educator Career Ladders with common policies, common expectations, and common validation processes across partnering agencies; (2) the new sets of high-tech, high-touch, and high-impact teaching residency, teacher induction, and professional development strategies, processes, curricula, and assessments shared among partnering P-20 organizations; (3) the state-of-the art next generation MA MicroCredentialing System scalable and sharable across regions; and (4) the anticipated impacts on increased teacher effectiveness, retention, and teacher diversity in STEM-C areas, and improved P-12 student achievements in high-need rural communities.

#### **IV. QUALITY OF THE MANAGEMENT PLAN**

##### **A. The adequacy of the management plan to achieve objectives on time and within budget.**

###### ***A.1 Shared Governance, Mutual Accountability, and Simultaneous Transformation***

Anchored in the theories and practices of capacity and linkage building, the MA model encourages simultaneous renewal and reciprocal transformation, and enables strategies that are sensitive to local contexts and responsive to community needs. The method of SMART goals (specific, measurable, attainable, relevant, and time-based goals) were used in defining project operations (Tables 1 & 7). Specifically, the MA management plan (Table 6) is designed with a supportive organizational structure to govern, manage, implement, and achieve stated goals on time and within budget. The initiative will be supported by 3 committees: (1) **MA Executive**

**Committee** will facilitate collaboration, oversee processes, and review inputs and outputs to ensure implementation fidelity and achievement of intended outcomes. Members will include the PI, Co-PI, LEA leaders, MA project coordinator, and members from the *Accelerated MegaCommunity* (Goal 1); (2) **Teaching Residency Committee** will support the *Accelerated Teaching Residency* (Goal 2) with faculty experts and placement coordinators from the Colleges of Education and Colleges of Arts and Sciences at the IHEs, representatives from the LEAs, school-based coordinators of the PDSs, and teaching resident representatives; and (3) **Teacher-Leader Committee** will support the *Accelerated Teacher-Leader Pathways* (Goal 3) with members from the LEAs, mentor teachers, IHE education and arts and sciences faculty, and representatives of recent graduates serving as new teachers.

The Executive Committee will meet on a bi-weekly basis to review status, address barriers, and adjust operations to ensure progress and achieve goals. The Teaching Residency Committee will work closely with local partners at each of the implementation school sites with monthly progress meetings to review inputs, outputs, and outcomes; and to address needs and ensure consistency and fidelity in achieving milestones and objectives. Similarly, the Teacher-Leader Committee will work closely with local partners at each of the implementation sites with monthly progress meetings to review inputs, outputs, and outcomes; and to address needs to ensure consistency and fidelity. Quarterly updates will be produced by each of the 3 committees, and interim and annual reports will be produced by the external evaluation agency. An annual MA Management Council Meeting will be held in conjunction with the MA Leadership Institute. The management council meeting will (1) review policies, operations, and qualitative and quantitative data to ensure accountability, (2) refine strategies and practices to address needs of MA partners and ensure continuous improvement, and (3) share findings and implications to build

capacities for scalable and sustainable improvement (Table 6).

The **Maryland Accelerates Institute (MAI)** will be established and housed at the COE and will serve as the center for research and participant services. The MA team will collaborate with LEAs and local industries in sharing expertise and resources; and will provide career-wide services from recruitment, pre-professional preparation, job placement, and professional development, to career advancement. The intents are to build local capacities and linkages for sustained educational engagement and economic advancement. With key foci on STEM-C advancement, MA will endeavor to increase teacher diversity from both traditional and non-traditional populations while enhancing the competencies of new and mentor teachers across disciplines. The MAI will be operated and managed under the *Accelerated MegaCommunity*.

#### ***A.2 Qualifications of Key Personnel and Project Management***

**Dr. Yi Huang** will serve as the Principal Investigator (PI) overseeing the MA R&D operations. Dr. Huang has served as an executive officer, educator, and administrator with rich experiences in higher education policy and administration. She is the author and PI for the Pathways to Professions (P2P) initiatives with a portfolio of projects funded by state, federal, and private agencies, including TQP award. Dr. Huang will devote 20% of time and will lead R&D efforts, including direct research and development of *Teaching Residency* and *Teacher-Leader* processes, contents, and assessments to ensure successful and sustainable advancement.

**Dr. Boyce Williams** will serve as co-PI overseeing direct execution of the MA initiative. She is the Interim Dean for the COE, and has extensive leadership experience in national and international educational policies and accreditation, and in supporting minority serving institutions. Dr. Williams will devote 37% of time overseeing institutional operations and project execution, including direct implementation to ensure implementation and institutionalization.

**Table 6: Maryland Accelerates Implementation Plan: Goals, Objectives, Milestones, Timelines, and Responsibilities**

GOALS/ACTIONS	BENCHMARKS	LEAD AND TIMELINES
<b>GOAL 1: ACCELERATED MEGA COMMUNITY FOR SYSTEMIC CAPACITY AND LINKAGE BUILDING</b>		
<b>Objective 1:</b> Build capacities and leverage shared resources for the accelerated teacher-leader pathways with career ladders for advancement.	<ul style="list-style-type: none"> <li>■ Establish <i>Accelerated MegaCommunity</i> with shared governance, resources, and accountabilities structures &amp; processes</li> <li>■ Build capacities with structures, processes, expectations, and measures for <i>Teaching Residency</i> and <i>Teacher-Leader Induction</i></li> <li>■ Establish MAI &amp; <i>Educator Career Ladders</i> with common expectations and measures for advancement across LEAs</li> </ul>	<ul style="list-style-type: none"> <li>■ Lead: <b>Executive Committee, PI &amp; Co-PI</b></li> <li>■ Quarterly updates with bi-annual in-person convenings and annual MA Leadership Institute (Q1-Q4, Oct. 2019- Oct. 2024)</li> </ul> <p>Q= Quarter; Yr=Year</p>
<b>Objective 2:</b> Conduct research and disseminate promising practices and lessons learned for potential scaled implementation, validation, and replication.	<ul style="list-style-type: none"> <li>■ Establish R&amp;D agenda and processes, create data collection protocols, secure IRB approvals and resources for implementation.</li> <li>■ Conduct bi-annual analysis on assessment and evaluation with inputs, outputs, outcomes and impact data for improvement.</li> <li>■ Share lessons learned and promising practices with stakeholders, at Annual Leadership Institute, and national conferences.</li> </ul>	<ul style="list-style-type: none"> <li>■ External evaluator produces Interim and Annual Reports (Q2 &amp; Q4)</li> <li>■ Executive Committee conducts bi-annual reviews &amp; determine actions necessary for improvement (Q2 &amp; Q4)</li> </ul>
<b>GOAL 2: ACCELERATED TEACHING RESIDENCY WITH YEAR-LONG CLINICAL EXPERIENCE</b>		
<b>Objective 1:</b> Increase diverse teacher supply and accelerate professional growth through intensive and extensive field-based preparation with fully integrated curriculum	<ul style="list-style-type: none"> <li>■ Yr 1. Co-design MAT residency programs with (1) integrated curriculum, (2) extensive residency, (3) specialized MA competencies, and (4) comprehensive assessments.</li> <li>■ Yr 2-4. Implement programs: cohort 1 (n=12), cohort 2 (n=15) and cohort 3 (n=15). See Tables 3-4 for scope &amp; sequence.</li> </ul>	<p>Lead: <b>Teaching Residency Committee</b></p> <ul style="list-style-type: none"> <li>■ Yr1. Planning w/ quarterly updates (Q1-4)</li> <li>■ Yr2-4. Teaching Residency Coordinator and program leads convene monthly meetings w/quarterly reports. (Q1-4)</li> </ul>
<b>Objective 2:</b> Ensure competency mastery through synergistic combination of nationally validated summative assessments and regionally validated formative assessments.	<ul style="list-style-type: none"> <li>■ Yr 1. Co-design comprehensive assessment to ensure mastery of content, pedagogical &amp; specialized competencies. Co-create MicroCredentials in Computational Thinking and High Leverage Practices I.</li> <li>■ Yr 2-4. Conduct IHE/LEA training. Implement comprehensive assessment plan and conduct external evaluation on impact.</li> </ul>	<ul style="list-style-type: none"> <li>■ Yr1. Planning w/ quarterly updates (Q1-4)</li> <li>■ Yr 2-4. Teaching Residency Committee conducts assessments. External Evaluator conducts perceptual and impact studies.</li> <li>■ External evaluator produces Interim and Annual Reports (Q2 &amp; Q4)</li> </ul>
<b>GOAL 3: ACCELERATED TEACHER-LEADER PATHWAYS WITH TWO-YEAR INDUCTION</b>		
<b>Objective 1:</b> Improve teacher effectiveness and retention, and accelerating teacher leadership advancement.	<ul style="list-style-type: none"> <li>■ Co-design induction program with (1) extensive professional development, (2) sustained mentoring, and (3) competency-based demonstration in Networked Improvement Communities.</li> <li>■ Yr 3-5. Implement program: cohort 1 (n=12), cohort 2 (n=15) and cohort 3 (n=15).</li> </ul>	<p>Lead: <b>Teacher-Leader Committee</b></p> <ul style="list-style-type: none"> <li>■ Yr1. Planning w/ quarterly updates (Q1-4)</li> <li>■ Yr3-5. Teacher-Leader Coordinator and program leads convene monthly meetings w/quarterly reports. (Q1-4)</li> </ul>
<b>Objective 2:</b> Improve teacher performance and student learning through evidence-based practices with demonstrated movement toward National Board Certification (NBC).	<ul style="list-style-type: none"> <li>■ Yr 1. Co-design comprehensive assessment to ensure mastery. Co-create MicroCredentials in High Leverage Practices II and Teacher Leadership with alignment to NBC.</li> <li>■ Yr 3-5. Conduct IHE/LEA training. Implement comprehensive assessment plan and conduct external evaluation on impact.</li> </ul>	<ul style="list-style-type: none"> <li>■ Yr1. Planning w/ quarterly updates (Q1-4)</li> <li>■ Yr 3-5. Teacher-Leader Committee conducts assessments. External Evaluator conducts perceptual and impact studies.</li> <li>■ External evaluator produces Interim and Annual Reports (Q2 &amp; Q4)</li> </ul>

**Dr. Kim Rotruck** will serve as MegaCommunity Coordinator overseeing *Accelerated MegaCommunity* (Goal 1) processes and operations. She is the Interim Associate Dean supporting all licensure and credential programs at the COE, and a content expert in Science Education. Dr. Rotruck will devote 37% of time, collaborate with the PIs, and engage in direct implementation to ensure project goals are achieved on time and within budget.

**Dr. Kristine McGee** will serve as Teaching Residency Coordinator overseeing *Accelerated Teaching Residency* (Goal 2) processes and operations. She is an Assistant Professor and coordinator of an MAT program. Dr. McGee will devote 37% of time, collaborate with the PIs, and engage in direct implementation to ensure project goals are achieved on time and within budget.

**Dr. Jodi Erich** will serve as Teacher-Leader Pathways Coordinator overseeing *Accelerated Teacher-Leader Pathways* (Goal 3) processes and operations. She is an Associate Professor and has been actively leading the implementation of MicroCredentials under a current initiative. Dr. Erich will devote 37% of time, collaborate with the PIs, and engage in direct implementation to ensure project goals are achieved on time and within budget.

**Mr. Al Delia** will serve on the *Accelerated MegaCommunity* to leverage regional resources and sustainable improvement. He is the Vice President for Regional Development and Engagement at FSU with extensive administrative experiences. Mr. Delia and his office staff will devote a total of 10% time to support regional partnerships and secure additional resources.

**Dr. Michael Flinn**, Associate Professor in Computer Science, will serve as key personnel and coordinate collaboration with the College of Liberal Arts and Sciences at FSU. Dr. Flinn will support the development and implementation of the new MAT program in Computer Science and will devote 15% of time to ensure objectives are achieved on time.

**High-Need School PDS Coordinators.** Within the current PDPSN, each of the high-

need schools has an assigned PDS coordinator who collaborates with FSU on a range of improvement activities. The school-based PDS coordinators will collaborate with the MA team to provide placement assistance for the teaching residency and induction programs.

**Project Coordinator.** Full-time, 100%. The coordinator will support the PIs with 100% time toward project implementation, including content development, activity delivery, and project maintenance. Qualification requirements include: experience with large-scale grant-based initiatives, demonstrated expertise in teacher education, demonstrated abilities to collaborate with diverse stakeholders and execute project plans under strict policies and timelines.

**Assessment & Research Associates.** Full time, 100%. To meet the 2% administrative requirement as specified in TQP program, 10% of time will support administrative processes and 90% will be devoted to direct implementation of assessments, research, and data collections in the field. Qualification requirements include: experience with research, assessment, data analysis and reporting; and demonstrated technology fluency and ability to complete tasks on time.

**External Evaluator.** Dr. Kavita Mittapalli, with the support of two associates at the MN Associates, Inc., will serve as external evaluator to conduct a concurrent mixed methods formative and impact evaluation. Additional information is presented under Section V.

## **V. QUALITY OF THE PROJECT EVALUATION**

### **A. The extent to which the methods of evaluation will provide valid and reliable performance data on relevant outcomes**

The research plan is built upon extension program development theories with logical modeling that tracks inputs, outputs, outcomes, and impacts (Table 1). Improvement sciences and its core principles from the Carnegie Foundation for the Advancement of Teaching will be adapted to simultaneously promote system renewal and continuous improvement (Bryk et al.,

2013). Anchored practice in disciplines with rapid cycles using TAP-IT model (MSDE, 2013) will be used to facilitate program implementation. Strategies and processes of networked improvement communities (Bryk, 2011) will be used to build profession-wide capacities and community-wide linkages. Valid and reliable performance data on relevant outcomes will be collected, analyzed, and used for continuous improvement. The rigorous evaluation strategies and methods have been aligned to the project goals and will include qualitative and quantitative data from multiple assessments and multiple sources in and over time with evidence of promise.

### ***A.1 Formative and Summative Assessments from Internal and External Sources***

The comprehensive assessment program will include a synergistic combination of formative and summative assessments from internal and external sources. Formative assessments include entries such as locally developed Clinical Rounds and Clinical Rotations assessments as well as regionally-validated Residency Evaluations (CPAST). Summative assessments include nationally-validated EdTPA and standardized PRAXIS II licensure exams. All courses and assessments are aligned to and meet national, state, and professional standards as issued by NCATE/CAEP, MSDE, MCCRS, and SPAs in discipline-specific areas.

### ***A. 2 External Impact Evaluations and Benchmark Reviews***

The evaluations will be conducted by an independent evaluation team based on (a) data collected through formative and summative assessments from the teaching residency and teacher-leader induction programs, (b) perceptual and impact studies based on surveys, interviews, focus groups, pre- and post-evaluations, (c) teacher hiring, retention and performance data from LEAs and identified GPRA measures, and (4) student achievement data based on LEA and State assessments. Mixed-methods with quasi-experimental design, propensity score matching, and value-added modeling will be explored to measure teacher effectiveness, teacher



retention, and impact on student learning. Quantitative data, where appropriate, will be analyzed using techniques such as descriptive statistics and multi-linear regression. Qualitative data will be analyzed through techniques such as thematic pattern matching, content analysis, grounded theory and constant comparative method. P-12 student outcomes will be conducted with techniques such as hierarchical linear modeling, regression analysis, or value-added modeling to estimate impacts. Qualitative and quantitative data will be triangulated and included in the interim and annual reports to address progress, barriers, outcomes, and implications for improvement.

External evaluation will be conducted by MN Associates, Inc. (MNA), an independent third-party evaluating agency. MNA is a PreK-12 research and consulting company with extensive experience conducting a broad-range of studies. Highlights of recent evaluation activities include grants affiliated with the National Science Foundation, the U.S. Department of Education, the U.S. Department of Labor, the U.S. Department of Defense, the Maryland State Department of Education, and the National Education Association. Dr. Kavita Mittapalli, founder of MNA, and senior researchers will support the MA initiative from design through post-grant reports and dissemination. The profile of MNA is presented in Appendix H.

**B. The extent to which the methods of evaluation are thorough, feasible, and appropriate to the goals, objectives, and outcomes of the proposed project.**

The rigorous evaluation strategies and methods and the highly structured data collection processes and timelines are designed to ensure thoroughness, feasibility, and fidelity. Valid and reliable data for each of the goals and objectives are summarized below and presented in Table 7.

***B.1 Accelerated MegaCommunity for Systemic Capacity and Linkage Building (Goal 1)***

Key research and evaluation questions include: What are the contexts, conditions,

characteristics, and strategies of *Accelerated MegaCommunity* that (1) increase capacities to deliver high quality teaching residency and induction programs for inclusive excellence; (2) improve teacher effectiveness, retention, and student learning, particularly in high-need schools? Progress will be tracked using the logic model in areas of inputs, outputs, outcomes, and impacts. TAP-IT will be adapted as a framework to guide the development and assess stages of progression from formation, implementation, and maintenance to institutionalization. The MA team will coordinate with partners to create contexts and conditions that facilitate cross-organizational efforts to define common goals, policies and procedures, and support rapid prototyping for testing and implementation. Perceptual studies through surveys, focus groups, and reviews of deliverables will be conducted. Semester- and annual-based cycles will be used for implementation, testing, and revision leading to continuous improvement.

### ***B.2 Accelerated Teaching Residency with Year-Long Clinical Experience (Goal 2)***

Key research and evaluation questions include: What are the contexts, conditions, characteristics, and strategies of *Accelerated Teaching Residency* that (1) improve TRs' content and pedagogical knowledge and skills necessary for new teachers, and (2) improve TRs' specialized competencies and influence on student learning in high-need communities? Progress will be tracked using the logic model with TAP-IT as a framework (Tables 1 & 7). All locally co-constructed assessments will use common measures and standards-based rubrics with the four-tier scale of Unacceptable, Needs Improvement, Meets Standard, and Exceeds Standard. Assessment and evaluation data will include (1) grades and key assessments results from the 42 credits of integrated curriculum, (2) locally developed Clinical Rounds and Clinical Rotation assessments; (3) regionally-validated Residency Evaluations (CPAST); (4) competency-based MicroCredentials reviewed and validated by MA partners; (5) nationally-validated EdTPA

summative assessment; (5) nationally validated PRAXIS II licensure exams; and (7) perceptual studies through surveys and focus groups. P-12 student data will be incorporated in TRs' Action Research and EdTPA assessment. Impact studies will include persistence and graduation rates, licensure exam passing rates, employment and subsequent retention rates, and P-12 data from LEA and State assessments in English, Math, and Science, as appropriate. Assessments 1-4 will be conducted through *Watermark* system at FSU on semester-based cycles. *Watermark* is a dynamic web-based learning and assessment system that includes powerful analytics to support analysis and reporting of outcomes at individual, program, and college levels. Assessments 5 and 6 are conducted independently by Pearson and ETS. Assessment 7 and impact studies are conducted by the external evaluator on bi-annual cycles.

### ***B.3 Accelerated Career Pathways with Two-Year Induction (Goal 3)***

Key research and evaluation questions include: What are the contexts, conditions, characteristics, and strategies of *Accelerated Teacher-Leader Pathways* that (1) improve new teacher's knowledge, skills, and effectiveness, and (2) improve teacher engagement, retention, satisfaction, and movement toward career advancement? Progress will be tracked using the logic model with TAP-IT as a framework. All locally co-constructed assessments will use common measures and standards-based rubrics with the four-tier scale of Unacceptable, Needs Improvement, Meets Standard, and Exceeds Standard. Assessment and evaluation data will include (1) outcomes of professional development at the minimum of "Meets Standard"; (2) outcomes of mentoring and observational activities at the minimum of "Meets Standard"; (3) outcomes of Clinical Rotations at the minimum of "Meets Standard"; and (4) outcomes of competency-based MicroCredentials at the minimum of "Meets Standard"; and (5) perceptual studies through surveys and focus groups. Impact studies will include LEA data on new teacher

**Table 7: Maryland Accelerates: Comprehensive Assessment and Evaluation Plan**

Goals, Objectives & Activities	Evaluation/ Sources/Outcomes
<b>GOAL 1: ACCELERATED MEGA COMMUNITY FOR SYSTEMIC CAPACITY AND LINKAGE BUILDING</b>	
<p><b>Management: Executive Committee</b></p> <ul style="list-style-type: none"> <li>■ Establish Accelerated <i>MegaCommunity</i> and build capacities</li> <li>■ Establish policies, expectations, and measures for Career Ladders Frameworks</li> <li>■ Conduct research and disseminate promising practices for potential scaled implementation</li> </ul>	<ul style="list-style-type: none"> <li>■ Stages of partnership progression from formation, implementation, and maintenance to institutionalization using <i>Coalition Effective Inventory</i> (CoalitionsWork, 2013) (Yr. 1: 50%; Yr. 2: 75%; Yr. 3: 80%; Yr. 4: 85%; Yr. 5: 85% satisfactory rating)</li> <li>■ Establishment of common expectations and measures for Career Ladders Frameworks, and create region-wide validation policies for MicroCredentials for career advancement (Yr. 1: planning; Yr. 2: 50%; Yr. 3: 75%; Yr. 4: 85%; Yr. 5: 100% completion)</li> <li>■ Document impact of MA strategies, processes, and implications for potential scaled implementation in high-need rural communities</li> </ul>
<b>GOAL 2: ACCELERATED TEACHING RESIDENCY WITH YEAR-LONG CLINICAL EXPERIENCE</b>	
<p><b>Management: Teacher Residency Committee</b></p> <ul style="list-style-type: none"> <li>■ Co-design and implement 18-month MAT residency program with evidence-based practices, &amp; MA specialized competencies</li> <li>■ Co-design and implement Clinical Rounds and Clinical Rotations in rural and urban settings</li> <li>■ Co-conduct faculty and mentor training on co-teaching processes, formative residency assessments, &amp; summative EdTPA assessment</li> <li>■ Co-design and implement MicroCredentials in Computational Thinking and High Leverage Practices (HLP) I</li> <li>■ Co-design and implement Leadership Institute</li> <li>■ Conduct perceptual and impact studies</li> </ul>	<ul style="list-style-type: none"> <li>■ Grades of courses (42 credits) at the minimum of “B” or above; and results of key assignments associate with the courses.</li> <li>■ Assessment of Clinical Rounds &amp; Clinical Rotation at the minimum of “Meets Standard”</li> <li>■ Residency Formative Internship Assessments (CPAST) conducted by university supervisors, mentor teachers, and teacher candidates during residency at the minimum of “Meets Standard”</li> <li>■ Summative assessment conducted through EdTPA at the minimum of “Meets Standard”</li> <li>■ Summative assessment as measured by PRAXIS II exams at passing score as determined by the State</li> <li>■ Two competency-based MicroCredentials at minimum of “Meets Standard”</li> <li>■ Annual perceptual studies through surveys and focus groups from the MA Leadership Institute</li> <li>■ Impact studies will include P-12 student data reported in Action Research and EdTPA; persistence and graduation rates, licensure exam passing rates, employment and subsequent retention rates, and student data from LEA and State assessments in English, Math &amp; Science, as appropriate.</li> <li>■ Expectations: Minimum of 85% all participants successfully complete the redesigned program and meet all assessment requirements at a minimum of “meets standard.” Annual reports will document processes, products, strategies, outcomes, and implications for scaled implementation.</li> </ul>
<b>GOAL 3: ACCELERATED TEACHER-LEADER PATHWAYS CAREER WITH TWO-YEAR INDUCTION</b>	
<p><b>Management: Teacher-Leader Committee</b></p> <ul style="list-style-type: none"> <li>■ Co-design and implement 2-year induction with high quality professional development and sustained mentoring</li> <li>■ Co-design and implement Clinical Rotations in rural and urban settings</li> <li>■ Co-design and implement MicroCredentials in HLP II and Teacher Leadership</li> <li>■ Co-conduct faculty and mentor training</li> <li>■ Co-design and implement Leadership Institute</li> <li>■ Conduct perceptual and impact studies</li> </ul>	<ul style="list-style-type: none"> <li>■ Outcomes of professional develop at the minimum of “Meets Standard”</li> <li>■ Outcomes of mentoring and observational activities at the minimum of “Meets Standard”</li> <li>■ Outcomes of Clinical Rotation at the minimum of “Meets Standard”</li> <li>■ Outcomes of 2 competency-based MicroCredentials at the minimum of “Meets Standard”</li> <li>■ Outcomes of IHE Faculty and Mentor Training at the minimum of “Meets Standard”</li> <li>■ Annual perceptual studies through surveys and focus groups from the MA Leadership Institute</li> <li>■ Impact studies will include LEA data on new teacher employment, retention, teacher evaluation, career advancement &amp; satisfaction; and student data from LEA and State assessments in English, Math &amp; Science, as appropriate.</li> <li>■ Expectations: Minimum of 85% all participants successfully complete the induction program and meet all assessment requirements at a minimum of “meets standard.” Annual reports will document processes, products, strategies, outcomes, and implications for scaled implementation.</li> </ul>

employment, retention, results from LEA-specific Teacher Evaluation, and movement toward NBC; as well as student achievement data from LEA and State assessments in English, Math and Science, as appropriate. Assessments 1-4 will be conducted through Watermark on semester-based cycles. Perceptual and impact studies will be conducted by the external evaluator bi-annually.

#### ***B.4 Government Performance and Results Act (GPRA) Performance Measures***

GPRA evaluation requirements are used as a framework for interim and annual reporting to the US Department of Education. (1) **Graduation.** At least 85% of TRs will persist to graduation. One hundred percent of graduates will pass PRAXIS II licensure exam and receive a MAT degree. (2) **Math and Science Graduation.** At least 85% of TRs in STEM-C areas will persist to graduation. One hundred percent of graduates will pass PRAXIS II licensure exam and receive a MAT degree. (3) **Employment Retention.** At least 85% of graduates will be hired within the first two years. Data will be collected from LEA and State hiring records, IHE program exit and follow up surveys, and new teacher induction surveys. (4) **Improvement of Scores.** At least 85% of TRs will meet or exceed the state licensure exam standards during preparation, and 100% will pass state licensure exams at program exit. (5) **Student Learning.** TRs will demonstrate positive impacts on student learning through Action Research and EdTPA assessment. TFs will demonstrate increased student learning, in comparison to their peers, as reflected in LEA and State assessments when appropriate. (6) **New Teacher Achievement.** Analysis regarding new teacher achievement will be conducted. Data will include information from MA Teacher-Leader interventions, LEA records, and information from the Maryland Longitudinal Data System. Additional information is presented in Appendix J4.

#### ***B.5 Iterative Process with Mixed Methods to Ensure Progress and Maximize Impact***

The MA assessment plan is built upon the core principals of shared governance with

defined mutual accountability through common goals, objectives, and data collection and reporting processes (Tables 6 & 7). Qualitative and quantitative data generated from formative and summative assessments as well as perceptual and impact studies will be collectively reviewed at the MA Management Council to gauge progress in meeting program objectives. Cyclical reviews of implementation, progress, and outcomes will be conducted to inform programmatic adjustments. Fidelity examinations will be conducted to ensure appropriate execution of interventions as designed. Knowledge gained and lessons learned will be shared at the Leadership Institute to build capacities and encourage adoption of evidence-based practices.

### ***B.6 Reporting and Dissemination***

Bi-annual and annual reports will document processes, products, strategies, outcomes, as well as unanticipated barriers to progress and possible solutions. The reports will be made available to MA stakeholders and the US Department of Education. Lessons learned and promising practices will be shared at the MA Leadership Institute, state, national and international conferences. The MA utilizes highly effective strategies and advanced technologies in content creation, hybrid delivery, and integrated assessment documenting learning processes, products and outcomes. The systematic approaches in building capacities and increasing effectiveness will enable low-cost and high-impact strategies for rapid and scalable implementation within and beyond the grant period. The MA executive team will study the efficacy, impact, and potential for scaled implementation and replication in larger contexts of higher learning and community development, particularly among high-need rural communities. The expected findings demonstrating MA's positive impact will help establish an accelerated teacher-leader model with career-wide advancement pathways for inclusive excellence.