

California State University, Dominguez Hills
Teacher Quality Program
Residency for Equity through Action and Learning

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PROJECT NARRATIVE

Cal State Dominguez Hills (CSUDH) and a consortium of high-need Green Dot charter LEAs propose to create Residency for Equity through Action and Learning (REAL). This proposal addresses the Absolute Priority and Competitive Preference Priority 1.

A. QUALITY OF THE PROJECT DESIGN

(i) The extent to which the proposed project demonstrates a rationale.

Rationale (II)(a) REAL is based on models for teacher residencies developed at the National-Louis University in Chicago and the Boston Teacher Residency. Residents in these and other residency programs had three-year retention rates of 80%-90% (Guha, Hyler & Darling-Hammond, 2016).

The Center for Teaching Quality describes seven principles of a high-quality residency program, and REAL includes all of them (Berry et. al., 2008).

Table 1. REAL Design Matches Elements of High-Quality Residency Programs

PRINCIPLE	REAL PROJECT
Tightly weave together education theory and classroom practice	Combines theory of rigorous master's coursework with increasing levels of practice in 1-yr program
Focus on residents learning alongside an experienced, trained mentor	Residents assigned to a trained mentor teacher who has full credential, tenure and 4+ years' experience
Group candidates in cohorts to cultivate PLC and foster collaboration	Cohorts meet monthly in professional learning community from residency through 2-year induction
Build effective partnerships among school districts, higher education institutions and nonprofit organizations	Partners include a consortium of Green Dot CA charter schools, four of CSUDH's colleges, and two nonprofits
Recruit and train teachers to meet specific school district needs	Addresses Green Dot CA's persistent need for secondary English, math and science teachers
Support residents once they are hired as teachers of record	New two-year induction program with trained, experienced induction mentor and PLC in cohorts
Establish and support differentiated career goals for experienced teachers	Opportunities to become master teachers, mentors and university supervisors of student teachers and to earn micro-credentials in key education topics

REAL also builds on a residency model for urban teachers developed by CSUDH via TQP grants in 2009 and 2014. On Smarter Balanced math tests from 2012 to 2016, students of CSUDH's TQP 2009 middle-school teachers scored, on average, better than students of nonparticipating teachers in all grade levels. TQP teachers' grade 6 and 7 students outperformed

students of nonparticipating teachers, if equal variances of the two groups is assumed ($p < .05$). In grade 8 science, students of TQP teachers scored better than students of nonparticipating teachers, though it was not statistically significant. Thus, in a project with many of the same components, students of our residency-trained teachers had higher math and science scores.

CSUDH's residency model had a positive impact on teacher retention in high-need schools. In the TQP 2009 project, 89% of teachers were retained for at least three years of teaching. In TQP 2014, 97% (29 of 30) were retained in teaching for two years (data to be gathered at end of 18-19 school year). Thus, our model attained retention rates at the upper end of national data.

The REAL design includes prior successful elements but adds or modifies components that improve upon our past efforts (e.g., new induction program and supervision model, micro-credentials and more). Also, REAL includes all new partners.

REAL's design aligns coursework, clinical preparation, and induction to produce better-prepared teachers (Howey et al., 2006). DeMonte cites a growing body of research that found supervised clinical experiences are important to retention (2015). Teacher candidates with more practice teaching tended to feel more prepared and stayed in the profession longer-term in both alternative and traditional pathways (Ronfeldt, et al., 2014). REAL residents will have 100 hours of lesson planning, practice teaching and reflection with expert lead teachers in a lab school before the residency. During the residency, residents will spend four full days per week in the classroom in fall semester and five full days per week in spring semester.

REAL's high-quality "home-grown" teachers will be more likely to raise motivation, effort, achievement and college aspirations in students who look like them (Dee, 2004; Egalite, Kisida & Winters, 2015). Also, REAL's "home-grown" teachers will be more likely to remain teaching in high-need Green Dot schools (Boyd, et al., 2005; Reininger, 2012).

One-on-one mentoring by a master teacher in the same school will raise retention of teachers in high-need schools. The National Center for Education Statistics found that 92% of beginning teachers who had a mentor returned for their second year of teaching (vs. 84% without mentors) and 86% were still teaching in their fifth year (vs. 71% without mentors) (Gray & Taie, 2015).

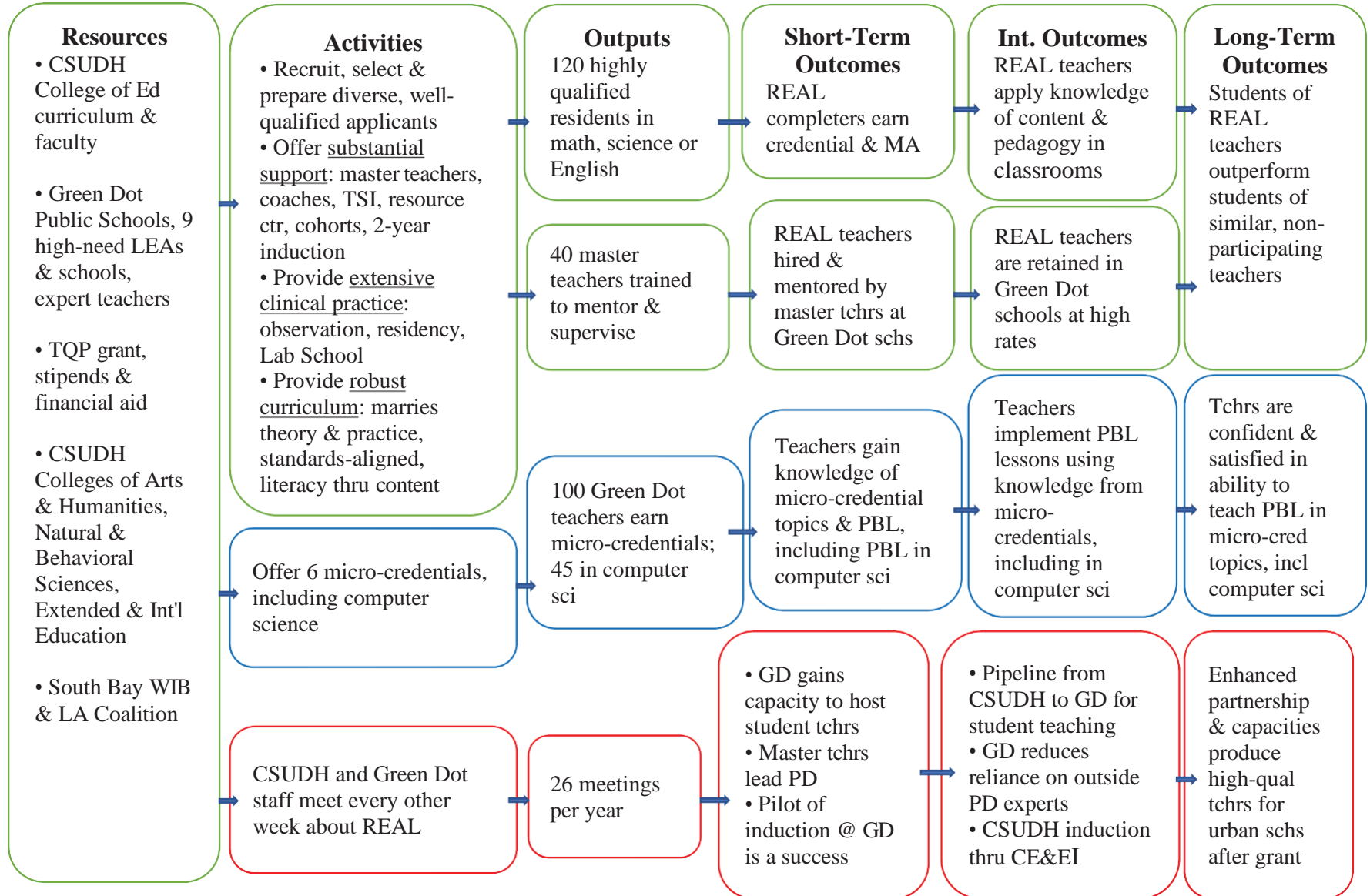
For REAL, CSUDH will create its own induction program for general education teachers, adapted from an induction program designed for CSUDH's special education teachers. Induction will be fully aligned with REAL's credential and master's programs, designed for urban educators in high-need schools, and provide high-quality mentoring from trained master teachers. Mentoring programs specifically tailored to meet the needs of beginning teachers can play a pivotal role in reducing attrition rates (Carr, Holmes & Flynn, 2017). The quality of mentoring is essential to improving teacher practice (Sowell, 2017). The REAL induction program is aligned with the California Standards for the Teaching Profession and was developed from the work of the California Commission on Teacher Credentialing, California Department of Education and the New Teacher Center.

Although micro-credentials for teachers is a relatively new approach to professional development that has not been rigorously studied, they are aligned with teachers' preferences for professional development that relates to what they do in their classrooms (DeMonte, 2013) and that is delivered over time, not in a one-session training (Archibald, Coggshall, Croft, & Goe, 2011). Teaching Matters found that teachers liked micro-credentials and believed using what they learned would improve student learning (2016). Teachers thought earning micro-credentials improved their teaching (Digital Promise, 2016a). Teachers used what they learned in micro-credentials in their practice (Acree, 2016).

Other strategies have a strong foundation in research: Lesson Study enables new teachers to develop skills for successful teaching and learning (Lewis, 2000; Choski and Fernandez, 2004). Professional learning communities-which in REAL will meet from summer academy through induction-improve teachers' connections and commitments plus student achievement (Hord, 1997). Cognitive Coaching improves teachers' reflection, effectiveness, and student test scores (Edwards, 2005). Project-based learning, which will be emphasized in curriculum and clinical practice, has been found in a number of studies to positively impact student learning and motivation (Condliffe, 2017; Cervantes, et al., 2015; Strobel & van Barneveld, 2009).

The REAL logic model on P. 4 illustrates our rationale for the project.

Table 2. REAL Logic Model



(f1) **Program Design** REAL will meet the purposes of the TQP program by 1) improving student achievement by providing students in high-need schools with highly qualified teachers in areas of highest need for Green Dot CA; 2) improving the quality of the future teaching force by offering a year-long residency that integrates coursework with substantial clinical experience, producing well-qualified, credentialed teachers with master's degrees and improving the current teaching force by training master teachers and offering micro-credentials in key topics, including computer science; 3) preparing teachers who have demonstrated subject matter knowledge in Green Dot CA's high need areas: math, science and English; 4) recruiting well-qualified recent college graduates and mid-career changers with strong content knowledge, academic success and the dispositions and commitment to become urban teachers.

Building on Success. CSUDH 2014 TQP grant (concludes Sept. 2019) created a residency program called STAR. REAL builds on successes and lessons learned in STAR, but involves different partners, other than the required CSUDH College of Natural and Behavioral Sciences. STAR's high-need district partner was L.A. Unified School District, whereas REAL includes Green Dot CA, a charter LEA consortium, plus four new partners. While math and science are common needs of LAUSD and Green Dot CA, LAUSD also needed elementary teachers, but Green Dot needs secondary English teachers. STAR's residency schedule for fall semester included four half-days and one full day per week in the classroom, but half days created great pressure on residents as they switched between activities. The REAL fall semester schedule is four full days per week in the classroom, giving residents more time with their mentor teacher plus a full day for coursework and other activities. STAR included internships for residents, but finding meaningful internships that were relevant to K-12 instruction in math, chemistry and multiple-subject was very difficult, though biology internships were available. Instead of internships, STAR includes six micro-credentials for professional development, and residents will earn their fabrication lab micro-credential in the summer before they start teaching. Successful features retained from STAR include 80 hours of early field experience, lab school for added clinical experience, mentor teachers, cohorts and a 15-month master's curriculum that

is fully integrated with credential courses. Other new features in REAL include an innovative, more relevant model for university supervision and a new induction program that will be fully aligned with REAL and Green Dot, as well as less expensive for new teachers.

I(a) As described in Appendix C, Green Dot CA's highest needs are for math, science and English teachers in its high-need middle and high schools. These three subjects represent 62% of Green Dot's teaching vacancies at the beginning of the 2018-19 school year. REAL's residency pathway will prepare highly qualified teachers to fill these gaps.

(d1) REAL will coordinate with other CSUDH teacher preparation programs to cross-refer to the appropriate program and to place candidates in teaching positions via hiring events. Also, REAL will collaborate with Green Dot's internship program with Loyola Marymount University by inviting LMU to every other REAL operations meeting. The three universities that received TQP grants in 2014 to launch residency programs-CSUDH, UCLA and Cal State LA-hold "IHE meetings" to collaborate with each other and more IHEs. REAL will seek to replicate this collaborative. Plus, REAL will coordinate with CSUDH's NSF-funded Noyce Scholars program, which produces math and science graduates who will be ideal candidates for REAL. Noyce Scholars' teaching obligation aligns with the TQP requirement. CSUDH's state-funded MSTI (Math Science Teacher Initiative) also will coordinate to channel qualified math and science graduates into REAL. MSTI and TRP (Teacher Recruitment Program) will provide state funds to recruit applicants and prep them for prerequisite state exams. CSUDH's College of Arts and Humanities, which has a very strong English department and state-approved subject-matter preparation program to demonstrate subject matter knowledge, will guide graduates into REAL.

(d2) REAL is consistent with state and local education reform activities, including a push to increase the number of teachers prepared by residency programs in California. Recognizing the benefits of residencies in producing good teachers, as well as the funding challenges, California provided funding in 2018-19 in a competitive process for LEAs to expand or develop residencies in special education, bilingual education and STEM. Also, REAL is consistent with California's Local Control Funding Formula, which focuses mainly on raising achievement in high-need

schools like Green Dot's. Plus, REAL aligns with California's MSTI (Math Science Teacher Initiative) to produce more math and science teachers by giving MSTI alumni a residency pathway to becoming effective teachers. Green Dot uses a double-block master schedule to raise achievement in math and English, and REAL aligns with that by supplying the much-needed additional math and English teachers to implement that strategy.

(b)(f2) II(a)(6)(i) CSUDH and Green Dot CA developed *admissions goals and priorities* for REAL, based on Green Dot's highest need for teachers in math, science and English, plus its long-term human capital recruitment strategy, which calls for filling 50% (up from 44%) of vacancies with highly qualified teachers who have one or more years of experience and for filling 100% of openings by the first day of school, prioritizing math and middle school. As mentioned, REAL is aligned with Green Dot CA's double-block master schedule, which requires more math and English teachers. Also, given Green Dot's curriculum, school locations and student population, teachers need to have the skills and commitment to delivering rigorous instruction in urban schools. Green Dot will actively participate in selection and will hire qualified graduates.

II(a)(6)(ii) **Recruitment:** REAL will implement a far-reaching recruitment plan to attract diverse applicants from nearby communities to the program. CSUDH's student body, which is 73% underrepresented ethnicities, and recruiting strategies will result in large numbers of participants from traditionally underrepresented groups and neighborhoods similar to those of Green Dot schools. For example, of the 10 high schools that sent the largest numbers of first-time freshmen to CSUDH in fall 2018, all are within 12 miles of campus and all have 80% or more students eligible for the National School Lunch Program. Of the first-time freshmen entering CSUDH in fall 2018, 86, or 4%, were from Green Dot CA schools.

CSUDH will use recruiting strategies that have been successful with underrepresented groups in 2014 STAR (74% underrepresented), 2009 Urban Teacher Residency (57%), and four Transition to Teaching (67%) projects. Examples: a) Members of previous cohorts from underrepresented groups will speak during recruiting events; b) Videos featuring speakers from

underrepresented groups used at information sessions and on website; c) Outreach to student organizations, e.g., Male Success Alliance for men of color; d) Advertise in community newspapers that reach partner school neighborhoods; e) Advertise in community centers and meeting places; f) Advertise on the College of Education and Green Dot CA websites; g) Outreach to off-campus organizations with STEM underrepresented members via social media, open houses, presentations, emails; and h) leverage Noyce Scholars' partnership with West L.A. College to recruit candidates of color and offer academic and financial support.

II(b)(1)(i), II(b)(2)(i) Selection: Eligible applicants will be recent graduates or midcareer professionals with bachelor's degrees from accredited IHEs and demonstrated subject matter knowledge in math, science or English. To be admitted to REAL, applicants must pass the California Subject Examinations for Teachers (CSET) or have completed a subject-matter preparation program to demonstrate subject matter knowledge before entering the credential program. CSUDH has state-approved subject matter preparation programs in English, math, biology and chemistry, among others. To increase the yield of REAL applicants from the pool of inquiries, REAL will offer preparation for the CSET using funds supplied by CSUDH's MSTI (Math and Science Teacher Initiative) and TRP (Teacher Recruitment Program) state grants.

II(b)(1)(i&ii), II(b)(2)(ii)&(iii) REAL will require an **application**, interview and observation to assess the candidate's verbal and written communication skills along with other attributes linked to effective teaching. In addition to eligibility, REAL has established rigorous selection criteria: a) undergraduate GPA of 3.0 or 2.75 in the last 60 units, b) subject matter knowledge (CSET or subject-matter preparation program), c) scoring 2.5 or above on Haberman's Star Teacher Interview, which identifies people well-suited to teach low-income students, d) proof of writing skills and commitment to the program via essay, e) personal interview to assess oral communication and aptitude for urban teaching, f) other basic California tests and clearances, g) interview questions related to Green Dot CA's College Ready Teaching Framework, which includes 43 indicators of effectiveness in 18 standards across five domains, to identify candidates who align with Green Dot CA's rigorous, robust definition of effectiveness.

Our thorough selection process will ensure that applicants are well-qualified and aware of the obligation to teach for three years in a high-need school. They will attend a required information session and conduct 80 hours of classroom observation and reflection. They will interview with the selection committee, composed of the REAL director and staff, Green Dot CA's Human Capital team, and CSUDH faculty. The committee will ensure that applicants understand their obligations to teach for three years in a high-need Green Dot school. Because representatives from Green Dot will be on the selection committee, applicants will not have to interview again with Green Dot HR before hiring. The selection committee will determine who will be admitted, conditioned on attending a mandatory REAL orientation session and other requirements.

II(c)(1)&(2) *Stipends*: REAL applicants will submit a stipend request and those who become residents will receive a \$24,000 stipend composed of \$19,000 in TQP grant funds, \$3,000 from Green Dot CA, \$1,000 from the school where they conduct their residency and \$1,000 from state-funded MSTI or TRP grants. Residents will receive stipends in 12 equal monthly payments. Also, residents will qualify for the \$4,000 federal TEACH grant-California identified math, science and English as subjects with statewide teacher shortages in 2017-18.

II(c)(3), II(d) *Agreement to Serve*: Stipend recipients will sign an agreement that contains all the required provisions, including the commitment to be a full-time teacher for three years in a high-need school immediately after the residency, teach in a high-need Green Dot school in a high-need subject area, provide proof of employment from the LEA at the beginning and end of the academic year, and meet California credential requirements. In addition, the agreement will state that those failing to complete the complete the credential, master's or teaching requirements will ***repay*** the stipend with interest at a rate specified by the partnership in the agreement, and in accordance with such other terms and conditions specified by the REAL partners. However, REAL partners will consider extraordinary circumstances that may prevent a resident from completing the program or teaching obligation and determine whether to waive repayment. Any returned funds will be used for REAL activities that are consistent with the grant purposes.

(f9) REAL Schedule: REAL is a well-planned model to produce highly qualified math,

science, and English teachers who hold master's degrees and are prepared for the complexities of teaching in urban middle and high schools. Table 3 shows that residents will complete rigorous coursework leading to a credential in 12 months and a master's three months later.

Table 3. 15-Month Pathway to Credential and Master's

	Jn	Jl	Au	Se	Oc	No	De	Ja	Fe	Mr	Ap	My	Jn	Jl	Au
Summer courses															
Residency & Courses															
Prelim cred													X		
Master's															X
Induction start															

This schedule will allow four cohorts of 30 residents each to earn preliminary credentials and master's in five years. Table 4 below illustrates how each cohort will progress through REAL milestones. CSUDH will sustain induction for cohorts 3 and 4 after the grant period.

Table 4. Milestones and Progression of Cohorts

	Summer Acad	Residency	Prelim Cred	MA	Induction Year 1	Induction Year 2	Full Cred
Year 1	Cohort 1						
Year 2	Cohort 2	Cohort 1	Cohort 1	Cohort 1			
Year 3	Cohort 3	Cohort 2	Cohort 2	Cohort 2	Cohort 1		
Year 4	Cohort 4	Cohort 3	Cohort 3	Cohort 3	Cohort 2	Cohort 1	Cohort 1
Year 5		Cohort 4	Cohort 4	Cohort 4	Cohort 3	Cohort 2	Cohort 2
Year 6					Cohort 4	Cohort 3	Cohort 3
Year 7						Cohort 4	Cohort 4

II(a)(5) Cohorts: Residents will be organized into cohorts of 30 to cultivate professional learning and collaboration. After completing the Summer Academy as a cohort, the cohorts will meet every other week on Mondays in the fall and spring semesters for professional learning community or Teacher Support Institute. TSI provides academic and instructional support, while PLC focuses on the residents' concerns and experiences. PLC sessions will be led by an expert faculty member from the College of Education who is very familiar with Critical Friends reflective practice. In PLC, residents will access emotional support and reflect on their teaching.

TSI addresses the limited time residents have to meet one-on-one for expert support. TSI

offers professional development focused on areas that first-year teachers need (e.g., classroom management, integrating technology in the classroom, classroom organization, parent engagement, etc.); instructional resources (to limit the amount of time creating lessons plans from scratch); free childcare, one of the most appreciated supports based on participants' survey responses; coursework support (related to credentialing); and counseling. TSI includes a Teacher Resource Center, with printing and scanning equipment, technical support, and fabrication equipment to make instructional materials. TSI lead teachers have a minimum of five years of teaching experience in a high-need school so they can guide residents to improve their practice.

I(c)(1) Spring Experiences: Before being accepted into REAL, applicants will conduct 80 hours of classroom observations and participation at a lab school (see Clinical Experiences Pp. 18-19 for description) or high-need Green Dot school. Lab school lead teachers, who are expert, successful teachers in high-need schools, will observe and evaluate applicants to assess whether REAL is appropriate for them. Also, applicants will attend mandatory monthly seminars January-May to learn from past residents about time management and communication; learn more about Green Dot; get to know the REAL team, resources and support; and meet their cohort members. Plus, they will go to financial aid workshops and application workshops to complete applications to CSUDH, the credential program, and the master's program.

II(a)(1), I(c)(4)(ii) Integrated Program: To create an accelerated, blended program for the preliminary credential and master's, CSUDH integrated four credential courses into graduate courses. Integration allows residents to complete credential and master's courses before they begin teaching, eliminates redundancies between the two, and engages residents in mostly graduate-level courses that offer more content depth and preparation to become teacher-leaders. The blended credential-master's program strengthens teacher preparation by increasing rigor in the theory of teaching, delving deeply into curriculum and applying this in high-need schools.

The credential and master's coursework will be integrated with increasing levels of experience in a one-year residency in an English, math or science classroom with a trained mentor teacher in a high-need school. Coursework and fieldwork will emphasize project-based

learning and use of technology in the classroom.

(f5)(f5ii) California began transitioning to the Common Core State Standards (CCSS) from 2012 to 2014 (first tested 2015) and Next Generation Science Standards (NGSS) from 2014 to 2018 (first tested 2019). Prior to these transitions, CSUDH redesigned its teacher preparation courses, particularly methods courses, to include more instruction in building conceptual understanding and problem-solving, as well as crosscutting concepts and science and engineering practices to align with the standards. REAL will fully align with CCSS and NGSS.

II(a)(2) **Rigorous Coursework**: Residents will complete four semesters of coursework to earn a credential and master's while undertaking a two-semester residency.

Summer Academy: Residents will take prerequisites (Table 5) to establish the theoretical foundations of teaching in diverse urban schools. Coursework will be in the afternoons four days a week and online for 10 weeks. (Courses numbered in the 500s are graduate-level.)

Table 5. Summer Academy (15 units)				
Course	Units	2020 Dates	Day	Time
TED 400: Introduction to Education	3	June 1-Aug 6	M	2-6:30 pm
TED 507: Language Learning: Theory & Practice	3		T	
TED 414: Cultural Ecology in the Classroom	3		W	
TED 506: Multicultural & Social Foundations of Ed	3		Th	
GED 500: Research Methods in Education	3		Online	

Residents will spend an additional 100 hours in the summer observing and participating at a Green Dot CA middle or high school from 8 a.m. to 1 p.m. for five weeks, with time built into the schedule for advanced preparation and reflection in the Teacher Support Institute.

Table 6. Summer Academy Schedule

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:30 am-1 pm	Weeks 1-2: (Mornings and before Lab School starts): Lab School orientation, special CPR training, Fabrication Lab training, etc. Weeks 3-7: Lab School				TSI
1-2 pm	Lunch				
2-6:30 pm	Coursework				

Fall Semester: Coursework will enhance classroom experiences, giving residents the skills they need to move from observing to co-teaching a lesson by the end of the semester.

Table 7. Fall Semester - Introduction to Residency (15 units)				
Course	Units	2020 Dates	Day	Time
SPE 495: Educating Students with Special Needs	3	Aug 24-Dec 14	M	8-11 am
TED 453: Teaching Practices Seminar: Single-Subject (will alternate with PLC)	3			12-3 pm
<i>TSI meets after TED 453</i>				3:30-6:30 pm
TED 406: Teaching Secondary Reading	3	Aug 22-Dec 12	S	8-11:15 am
TED 467: Secondary Teaching Methods I	3			11:45 am-3 pm
TED 505: Educational Psychology	3			Online

Residents will be in classrooms for full days Tues-Fri. Coursework will be Mondays and Saturdays; 2014 residents wanted more continuity in classroom time without breaks in the middle of the week or afternoons for coursework. Saturday classes may combine in-person and online delivery; the Teacher Education Department will decide. Residents will have other evenings during the week to complete homework, plan, etc. The Mon. & Sat. schedule accommodates the residents who will pursue BCLAD bilingual certification. They can take BCLAD courses one weekday with students on campus. Or if enough residents pursue BCLAD, we will offer a section at a Green Dot school. CSUDH faculty and Green Dot content specialists will co-teach methods courses, plus TED 400 (Introduction to Education) and TED 414 (Cultural Ecology in the Classroom, formerly Classroom Management). The professional learning community and Teacher Support Institute will meet in alternate weeks. As mentioned, REAL will offer childcare for residents during TSI (Mondays) and coursework (Saturday). MSTI and Noyce students will be trained to provide fun learning activities to residents' children.

The methods courses, TED 467 (fall) and TED 468 (spring), are aligned with master's course CUR 516, Seminar in Curriculum Development. In TED 467 and 468, residents will be introduced to project-based learning, and in subject teams in CUR 516, they will develop project-based units. Also, in TED 467 and 468 they will construct lessons based on CCSS and NGSS, while in CUR 516 they will analyze curriculum through the lens of CCSS and NGSS.

Spring Semester Residents will complete their credential coursework by delving more deeply into English, science and math curriculum development, content literacy and teaching

methods. The 400-level courses will be co-taught with Green Dot. TED 455 is student teaching; only during this semester will residents be formally supervised. In the fall semester, they will receive only feedback and support from their mentors and REAL's instructional coaches. In TED 455, supervisors will conduct observations and discussions with residents at varied times. In May, residents will qualify for a preliminary credential by passing the California Teaching Performance Assessment (CalTPA). This summative assessment is completed in two cycles, one on planning for instruction and the other on assessment. CalTPA requires credential candidates to *plan* a series of integrated lessons, video tape their *instruction*, *assess* and analyze student work, and *reflect* on their teaching.

Table 8: Spring Semester - Residency and Credential Completion (20 units)				
Course	Units	2021 Date	Day	Time
TED 488: CalTPA(alternates with TSI & PLC)	2	Jan 25- May 12	M	4:30-9 pm
TED 468: Secondary Teaching Methods II	3	Jan 23- May 15	S	8-11:15 am
CUR 510: Process of Curriculum Development	3			11:45 am-3 pm
TED 455: Student Teaching: Single Subject	12	Jan 25- May 25	TBD	TBD

Residents will meet in their cohorts for PLC once every 4 weeks and TSI once every four weeks. The cohort meetings for PLC or TSI will not be as long as TED 488 class time: 2 hours for PLC and 3 for TSI. As in fall, Saturday courses may combine online and in-person delivery.

Summer Semester: Residents will complete their master's degrees. By having residents take three courses in the summer, REAL is lightening their spring load. Courses will start after Green Dot's academic year ends in June. Our goal is for residents to complete master's comprehensive exams (replaces a thesis) before Green Dot's academic year begins in August.

Table 9. Summer Semester -MA Completion (7 units)				
Course	Units	2021 Dates	Days	Times
CUR 519: Adv. Study in Curric & Research Pract	3	Jun 14-Jul 14	MW	8 am-12:30 pm
CUR 516: Seminar in Curriculum Development: Math, Science & English	3	Jun 14-Jul 14	TTh	8 am-12:30 pm
TED 560: Assessment Seminar Capstone	1	Jul 19-Aug 4	MW	8 am-12:30 pm

(f6) **Students with Disabilities** Residents will develop skills to meet the needs of students with disabilities. At lab school, they will 1) observe varied SPED instructional settings; 2) participate in "mock IEP" meetings; 3) review IEPs with lead teachers and practice effective teaching; 4) receive support from SPED experts. In coursework, they will 1) learn about SPED law, specific disabilities, instructional practices and IEPs; 2) complete an in-depth case study by observing a student with disabilities in lab school and connect to student's IEP; 3) examine fairness issues from the lens of a SPED student; 4) learn effective teaching practices for students with disabilities; 5) learn differentiated instruction and lesson design, especially SDAIE; 6) create instructional units to show understanding of pedagogy that supports learning and makes appropriate accommodations. Residents also can earn a micro-credential in inclusive practices.

(f7) **Limited English Proficient:** REAL will prepare residents in curricula, instructional strategies, and assessment for English learners that are aligned with CCSS and the state's English Language Development Standards. The Green Dot director of literacy programs and CSUDH College of Education faculty will ensure language development strategies, curriculum and instruction, and assessment methods are well-integrated into credential, master's and induction courses. TED 467 and TED 468 methods courses incorporate best practices in second-language instruction in the content areas. TED 507 Language Learning covers theory, research and teaching practices about how people acquire language. Induction will include English-learner strategies, as well as using data about English learners to improve instruction. Topics for faculty, mentors and support providers will be 1) integrating language development with content instruction; 2) how language is used in math or science and how texts in those subject are written; 3) designing sheltered instruction that combines content and language development; 4) modifying assessments so ELs can demonstrate understanding of content, and using multiple measures of students' understanding (Short & Fitzsimmons, 2006).

(c) In CUR 519, residents will study educational research methods and will learn how to implement teacher action research so that they will be able to **use data** to measure and improve student achievement beyond the capacity of most novice teachers. The course requires residents

to demonstrate instructional leadership and problem-solving using data in multiethnic schools. CUR 519's signature assignment is developing and implementing an action research project. The residents will have a deeper understanding of the research and data that impact teaching and learning than would be the case if they received a credential without graduate coursework.

I(c)(2),I(c)(4)(iii), II(3)(ii) **High-Quality Mentoring:** REAL will train experienced teachers to become master teachers who can be mentor teachers, university supervisors, course co-teachers and leaders of PD. Each resident will be paired with a master teacher as their mentor teacher. Most pairings will stay intact for three years as residents are hired in the same schools where they were residents.

II(a)(4)(i-v) **Criteria:** Mentor (master) teachers must have a full credential in math, science or English and 4+ years' teaching experience. Teachers with these qualifications can apply, but they will need a recommendation from their principal to advance in the process. A CSUDH-Green Dot team will interview applicants and observe them teaching. The recommendation form, analysis of lesson plan, observation protocol and interview protocol will reflect all the Absolute Priority's criteria for a mentor teacher. The principal's recommendation form will cover the prospective mentor's ability to collaborate with colleagues to improve instruction and to analyze gains in student learning. The observation will require a lesson plan to show ability to plan and prepare; use of strategies to diagnose before instruction, monitor learning and assess after instruction; use of appropriate pedagogical strategies, and strategies to engage and support students with different learning styles. The observation protocol will measure engaging all students, making content accessible to all, monitoring students, classroom management, pedagogical skills and skills that are particular to math, science or English, as well as literacy in core subjects.

(f10) II(a)(3)(i) **Mentor Training:** Mentors will receive 52 hours of credit-bearing training.

Table 10. Mentor (Master) Teacher Training Schedule. 52 hours over 6-7 days			
Topic	Hours	Trainer	Timeframe
Scope & Sequence of REAL	2	Kamal Hamdan	Spring
Cognitive Coaching	18	John Matich	Spring
Adult Learning Theory	3	Jeff Sapp	Spring

Co-Teaching	3	John Davis	Spring
Lesson Study	14	Jessica Renteria & Geoffrey Peyton	Spr & Sum
Project Based Learning	6	James Borden	Spring
Technology	6	Andrya Salazar	Spr & Sum

Based on lessons learned in STAR and feedback from master teachers, REAL increases the hours of training in Cognitive Coaching and Lesson Study, which master teachers identified as the two most important topics. Training ensures that mentors understand the scope and sequence of REAL so that material residents learn in their coursework and lab school is reflected in the clinical experiences in mentors' classrooms. Training will prepare mentors to assist residents in developing into reflective practitioners and teacher-leaders. Also, by training master teachers, we will build Green Dot CA's ability to prepare future teachers via student teaching.

II(a)(3), II(a)(3) (ii-iii) Mentor Responsibilities: Mentor (master) teachers will A) design classroom experiences for residents in collaboration with REAL staff; B) provide ongoing feedback and engage in reflective dialogue with residents; C) guide and support residents using Cognitive Coaching; D) some will co-teach credential and master's courses; E) guide and support REAL teachers during induction. Some mentors may be partially released from teaching.

Supervision: From STAR and its other teacher-preparation programs, CSUDH learned that retired coaches and school administrators hired as university supervisors had been out of the classroom for too long to have in-depth knowledge of new standards, etc. REAL has created an innovative solution. REAL will train master (mentor) teachers to evaluate other mentor teachers' residents-not their own mentees-to improve the quality of university supervision and ensure it is informed by the context of schools' challenges and circumstances. In spring semester in TED 455, supervisors will observe and assess residents six times. Before each observation, residents will submit a lesson plan via Taskstream, which the supervisor will review and respond to with feedback. During observations of residents teaching the submitted lesson plan, supervisors will document evidence of the Teaching Performance Expectations. After, the supervisor and resident will discuss the TPEs, modifications, etc. Residents will submit a reflection through Taskstream on each observation and a weekly journal entry about their progress and concerns.

Instructional Coaching: CSUDH instructional coaches in math, science, English and literacy will support residents and mentors. The coaches are trained in project-based learning, lesson study, Cognitive Coaching, etc. Instructional coaches can conduct classroom observations, offer advice and guidance, address concerns, help overcome challenges, assist with lesson planning and classroom management, etc., to ensure residencies are positive experiences for residents and mentors that achieve the intended results. In addition, Green Dot's team of instructional experts, who are members of the REAL operations team, will collaborate with instructional coaches to supervise the mentor-resident teams. School administrators will also supervise mentor teachers since the schools are investing in their development by contributing to their stipends.

I(c)(4), I(c)(4) Clinical Experience Residents will receive clinical experience with trained mentor teachers in Green Dot CA's high-need schools for the academic year from August to June. As described, well-trained mentors will guide and support residents as they increase their involvement from observation to co-teaching to teaching over the year.

Lab schools: REAL will establish lab schools at a Green Dot middle school and a high school. Lead teachers from Green Dot schools who are experts in their field and have years of proven success teaching in high-need schools will become lab school lead teachers. The lead teachers will be recommended by their principals and go through a selection process similar to that of mentor teachers (some may fill both roles). REAL instructional coaches and Green Dot coaches will select lab school lead teachers based on results of an interview, observation of a lesson, etc. Once selected, the 10 lead teachers will be trained by REAL's instructional coaches and CSUDH lab school administrator to acquire any skills they do not have: project-based learning, fabrication lab technology, NGSS, literacy, Cognitive Coaching, lesson study, etc.

In the spring, applicants who are in the final stages of the selection process will conduct observation as part of instructional teams in the lab schools. Spring instructional teams will consist of lead teachers plus two or three candidates. The lab schools will meet every other Saturday, for a total of eight Saturdays. Lab school lead teachers and instructional coaches will plan curriculum for spring and summer lab school while applicants observe or participate so they

can get a sense of the rigor of the planning process. Applicants will attend the lab school with their instructional team. Each team will work with a diverse class of 35 to 40 general education and special education students from Green Dot schools, including those with limited English proficiency. The lead teachers and instructional coaches on the teams will teach the lessons developed during planning sessions while applicants observe. REAL team members will observe the candidates. At end of the day, lead teachers and applicants will debrief. Then the lead teachers will meet with the REAL team to discuss applicants' engagement and interest the teaching process to assess their suitability for the REAL residency.

During the Summer Academy, residents will gain valuable clinical experience in the lab schools, which will meet Mon.-Thurs. for five weeks. Residents will be members of instructional teams that include lead teachers who are expert in STEM or English instruction. Lab schools will enable residents to meet the required number of observation and classroom participation hours prior to beginning their residencies. The lab school will be fully integrated with summer coursework and will allow candidates to complete course assignments that require access to K-12 students or include classroom observations.

Residents will plan, observe, co-teach and teach project-based lessons as a member of an instructional team of three residents and a lead teacher. Lead teachers will help develop residents using lesson study, modeling effective instruction, leading co-planning sessions, and gradually offering residents more teaching responsibilities. During each day's planning periods, teams will examine student work, reflect on what worked (or did not) and why, analyze student learning, and identify challenges. The teams will modify lessons and teach them to different groups of students. This approach differs from typical methods classes in which participants develop lessons and talk about how to adapt them, but never teach the lessons to students.

The Lab School is designed around a robust literacy framework to enhance residents' confidence and competence in integrating writing into and across the content areas and assessing and responding to student writing. REAL will collaborate with CSUDH arts faculty to integrate the arts into the STEM curriculum to create STEAM for the Lab School.

I(c)(4) *Supervised Interaction*: Residents will interact extensively with faculty in coursework, micro-credentials, lab school, and the professional learning community, which will be led by faculty experts. Residents will interact with experienced teachers, who will be mentor teachers, supervisors, lab school lead teachers, TSI expert teachers and instructional coaches. School leaders and administrators will interact with residents in coaching, school PD and meetings, and supervision (observations and reflective conversations).

Placement in High-Needs Schools: Because Green Dot human capital staff will be on the selection committee, graduates will not need re-interview. The residency will help residents and school personnel know each other well, which will ensure good hiring decisions and increase retention. Most residents will be hired in the high-need school where they do their residency, which will maintain the mentor-resident pairing into induction. REAL staff will collaborate with Green Dot human capital staff and principals to ensure a smooth hiring process.

CSUDH's MSTI Scholars (undergraduates with backgrounds in math or science who intend to become teachers) will become teaching assistants-at no cost to REAL-in the classrooms of first-year REAL teachers. MSTI scholars will help with, e.g., classroom management, one-on-one and small-group tutoring, to foster success and retention.

(g1-4) I(c)(3), II(a)(7) *Induction* For REAL, CSUDH will create its own induction program for general education teachers, adapted from an induction program designed for CSUDH's special education teachers. Because the induction program will be a modification, it will not need to be approved by the California Commission on Teacher Credentialing as a new program.

Without a CSUDH induction program, CSUDH-prepared teachers had to enroll in another university or complete their district's induction program. For example, CSUDH's 2014 TQP STAR project partnered with CSU Northridge for induction. The downsides to these approaches are: 1) Induction via a district or other university often repeats material that has been covered in the credential and master's programs. The REAL induction program will build on, rather than repeat, the residency topics and skills. 2) Another university's induction costs teachers much more than CSUDH's new induction model. For example, CSU Northridge required STAR

teachers to pay part-time tuition for 6 units, or \$2,000 per semester, even if they were taking one unit. CSUDH will offer induction through its College of Extended and International Education to cut costs for teachers. In CE&IE, teachers will pay per unit at \$300 per unit.

I(b) After they receive their preliminary credentials and are hired, beginning teachers will join a two-year induction program. Induction will enable REAL teachers to earn their full credential after two years of teaching. REAL teachers will complete induction in their same cohorts and will meet monthly in their PLC, as they did in the residency.

(g2) In induction, CSUDH faculty will assist REAL teachers in developing their Individualized Learning Plan, based on the California Standards for the Teaching Profession (CSTP). The course instructor's guidance will rely on California's Continuum of Teaching Practice, which is aligned with the CSTP and developed from the work of the California Commission on Teacher Credentialing, California Department of Education and the New Teacher Center, to support the development and assessment of progress on ILPs. Activities in induction courses will focus on the CSTPs and include individual feedback on teaching performance and monitoring of teaching and student achievement. Faculty will ensure effective support from induction mentors.

(f10) II(3)(ii) Each REAL teacher will be assigned to a trained induction mentor (the same as their residency mentor, if hired in the same school). If a resident is hired in a different partner school without a REAL mentor in the same subject area, the REAL team will select a mentor from that school's faculty, based on the principal's recommendation, using the same criteria and process. CSUDH will provide 25 hours of training to induction mentors to improve their ability to assist novice teachers in identifying areas of growth to improve student achievement.

Table 11. Training for Induction Mentors

Theme	Duration	Mentors will learn to.
Building and maintaining mentoring relationships	5 hours	Use effective mentoring strategies, build collaborative relationships, use formal mentoring tools, collect data to monitor teacher practice

Theme	Duration	Mentors will learn to.
Targeted practice to improve student learning	5 hours	Do targeted observations; use strategic coaching; ensure equitable, culturally responsive, standards-based curriculum
Mentoring, feedback, coaching	5 hours online	Develop their mentoring skills
Follow-up sessions	10 hours	Continue to develop mentoring in 5 2-hr sessions

Induction mentors will receive training each semester REAL teachers are enrolled in EDU 470 (Table 12). At the start of induction, teachers and mentors will attend a three-hour training on team building. Also, each semester, REAL teachers and their mentors will attend an orientation to the requirements and expectations of that semester's course.

REAL teachers will meet at least weekly with their mentors, and mentors will conduct 3-5 targeted observations each semester, which will include a pre-conference and post-observation coaching. Mentors will document these activities and, in collaboration with the CSUDH instructor, will assist REAL teachers in developing individual plans to collect data and measure growth. In EDU 470, teachers will demonstrate progress toward their individual learning plans.

Table 12. Induction Courses, CSTPs and Activities

Year 1		
Fall Semester	Course Activities	Classroom Activities
EDU 470 (a) Individual Learning Plan Development CSTP 1 Engaging and Supporting All Students in Learning	<ul style="list-style-type: none"> • Develop ILP • Growth activities in ILP can be grad coursework, research, self-directed study or REAL micro-credentials. • Instructor guides teachers to develop portfolios and gather evidence. 	<ul style="list-style-type: none"> • Induction mentor and principal sign off on ILP. • Induction mentor provides guidance weekly to develop and review progress on ILP.
Spring Semester	Course Activities	Classroom Activities
EDU 470 (b) Indiv Learning Plan Devel CSTP 3 Understanding & Organizing Subject Matter for Student Learning CSTP 2 Creating and Maintaining Effective Environments for Student Learning	<ul style="list-style-type: none"> • Teachers assess their individual growth toward their ILP through summative or formative assessment and self-reflection. • Based on feedback, teachers modify ILP, e.g., increase focus on one area, or complete additional micro-credentials • Teachers gather evidence for portfolios. 	<ul style="list-style-type: none"> • Teachers continue to meet with mentors at least weekly to review progress on ILP. • Induction mentors conduct 3-5 targeted observations • Teachers collect data and assess progress
Year 2		
Fall Semester	Course Activities	Classroom Activities

EDU 470 (c) Individ Learning Plan Devel CSTP 4 Planning Instruction & Designing Learning Exper. for All Sts CSTP 5 Assessing Students for Learning	<ul style="list-style-type: none"> • Teachers assess their individual growth towards their ILP. • Teachers' portfolios demonstrate evidence they have grown in all or some areas. Or they may focus on one area, e.g., EL, SPED. • Teachers gather evidence for portfolios. 	Same as Year 1 spring semester
Spring Semester	Course Activities	Classroom Activities
EDU 474 Individual Learning Plan Completion CSTP 6 Developing as a Professional Educator	<ul style="list-style-type: none"> • Teachers gather evidence for portfolios. • Teachers demonstrate knowledge and skills acquired by completing their ILPs. • Teachers demonstrate progress re student growth by formative & summative assessment of teaching 	Same as Year 1 spring semester

(f8)(i-ii), (f10)**Micro-credentials**: REAL will offer high-quality professional development to in-service teachers via six micro-credentials. In the Summer Academy, residents will earn the Fabrication Lab micro-credential. CSUDH will offer the micro-credentials to master teachers and other Green Dot teachers, prior to more widely offering them to public school teachers. After residents have earned their preliminary credentials and master's, they will earn additional micro-credentials, many as part of their professional development during induction.

Table13. Micro-credential Instructors

Computer Science	Computer science faculty and adjunct faculty (expert teacher)
Inclusive Practices	Teacher education faculty in special education
Literacy	English faculty, teacher ed faculty and adjunct (expert teacher)
Fabrication Lab, Project-based Learning, NGSS	REAL instructional coaches (one is CSUDH teacher ed faculty)

Micro-credentials are not one-day trainings. Their intensity, duration, reliance on best practices and grounding in research are highly likely to improve teachers' practice in computer science, fabrication technology, inclusive practices (special ed), literacy, NGSS, and project-based learning. As a result, teachers will deliver rigorous instruction that raises achievement.

Computer Science: See CPP 1 on Pp. 48-50.

Fabrication Lab Technology has beginner, intermediate, and advanced levels that require 30, 20, and 20 hours, respectively, of coursework plus homework. The levels progressively explore more complex software, hardware and curriculum development. The CSUDH Fab Lab

Team developed this micro-credential based on guidelines established by the Fab Foundation. Educators learn about basic fabrication software, use basic fabrication machines, e.g., 3D printers and laser cutters, solve engineering challenges using fabrication equipment, and create project-based units of study using the technology. Teachers demonstrate mastery by 1) using fabrication software to design and print a 3-D object, 2) designing and teaching a project-based unit of instruction based on an engineering challenge and fab lab technology, and 3) submitting the unit of instruction and portfolio for evaluation. The CSUDH Fab Lab project has advanced fabrication equipment and a fleet of five mobile fab labs, which bring fabrication tools and technology to the schools of teachers who earn the Fab Lab micro-credential to engage students in hands-on STEM.

Inclusive Practices will raise the skills of general education teachers so they can improve outcomes for students with disabilities and struggling learners in content areas. The micro-credential is aligned with the 2016 revision by the Commission on Teacher Credentialing to the Teacher Performance Expectations, which places a greater emphasis on meeting the needs of *all* students, and is based on *High-Leverage Practices in Special Education*, by the Council for Exceptional Children and the CEEDAR Center (2019). The micro-credential will increase knowledge of inclusive practices beyond what is typically available in general ed credential programs. Teachers will receive 25 hours of instruction and 5 hours of mentoring. Examples of topics and activities: understanding disability categories, Universal Design, developing deeper knowledge of a disability category with a mentor, in-depth case study or portfolio of a student, high leverage practices for learners of different disability categories, modifications and accommodations for my students, student- and parent-centered IEPs and data collection. Teachers will demonstrate mastery by presenting portfolios.

(f8)(ii) **Literacy** (to be developed in collaboration with College of Arts & Humanities faculty) will consist of five courses that can be completed in one year through the College of Extended & International Education. Topics include foundations of literacy, literacy assessment and instruction, culturally responsive literacy interventions, literacy across content areas, and

integrating technology into literacy instruction. Teachers will demonstrate mastery by presenting portfolios maintained during the five courses. They will learn to design literacy instruction and assessment; implement CCSS and NGSS; integrate reading, talking and writing in content areas; engage students in academic conversation or accountable talk; increase students' interest and ability to read advanced material in content areas; apply strategies in scaffolding literacy with informal texts; use culturally responsive approaches; and integrate technology-support learning.

Next Generation Science Standards requires three full days of NGSS training, followed by two cycles of lesson study. Lesson study cycles are one day: a half day for teaching the lesson and a half day for group discussion, reflection and lesson modification. Topics covered in the three-day training include designing an NGSS-aligned lesson (by grade level or subject) and unit planning with NGSS and lesson study workshop. Teachers will learn to analyze NGSS lesson plans and work with others to break down performance expectations. To demonstrate mastery, educators will create and present an NGSS-aligned lesson and, after two cycles of lesson study, submit a lesson plan, reflection, and samples of student work in a portfolio. The micro-credential will deepen teachers' understanding of the conceptual and instructional shifts from California's Science Content Standards to NGSS. In lesson study, educators will practice developing and teaching NGSS-based lessons. (Developed by CSUDH teacher ed and STEM faculty.)

Project-based Learning is four consecutive full days of training in the summer plus two half-days in both fall and spring semesters. Teachers develop expertise in project-based instruction to engage students in learning and encourage self-reliant learning. Teachers will learn about the elements of PBL, its importance and how it works. They will develop expertise in preparing standards- and project-based lessons and units. Teachers will demonstrate mastery by developing and presenting a project-based lesson; designing and teaching a four-week, interdisciplinary unit using PBL; and submitting a lesson plan, reflection and samples of student work in a portfolio. As a result, educators' students will acquire content knowledge and develop conceptual understanding as they conduct investigations in response to authentic challenges or complex questions. PBL enhances problem-solving skills, promotes group collaboration, improves

communication skills, and links students to the world around them.

II(d)(1-3) **Repayment**: The agreement that applicants sign will state that those failing to complete the complete the credential, master's or teaching requirements will repay the stipend with interest, pro rata, unless the REAL partners approve the participant's request to consider extraordinary circumstances. Any returned funds will be used for REAL activities. **Tracking**: (f11)The REAL team will track hiring and monitor placement to ensure that participants teach for three years in high-need Green Dot schools. REAL will use a customized database already developed for CSUDH that tracks participants from previous similar projects. We will require REAL teachers to provide written proof of employment from the LEA at the start and end of each school year. We will ask REAL teachers to remain in the same high-need school to fulfill their commitment. During the two first years of teaching, they will be in PLC meetings monthly and induction classes weekly, allowing REAL staff to immediately address any problems.

(ii) Goals, objectives and outcomes are clearly specified and measurable.

Table 14. Goals, Objectives, Performance Measures

<i>Performance Measures</i>	<i>#</i>
Goal 1. Recruit and prepare highly qualified middle and high school teachers in subjects matched to the needs of students in high-need Green Dot CA schools.	
<u>Objective 1</u> : REAL residents each earn single-subject credentials in math, science or English and master's degrees.	
1a. Recruit and enroll qualified participants in 4 cohorts of 30 each	120
1b. Recruit and train exemplary teachers as master teachers	40
1c. Residents earn preliminary single-subject credential within 1 year of program completion (96%); 98% earn credential in more than 1 year	115/120
1d. Residents earn preliminary single-subject credential in math or science within 1 year of program completion (60%)	70/117
1e. Residents earn a master's degree in 15 mos. (90%); 100% in more than 15 mos.	105/117
1f. Residents enrolled in program in previous grant reporting period, did not graduate, and persisted in program in current grant reporting period (100%)	5/5
1g. Federal cost per program completer (year 5)	TBD
<u>Objective 2</u> : Residents become effective teachers	
2a. Residents maintain GPA of 3.0 in REAL (100%)	120/120
2b. Residents' pass rate on first attempt at CalTPA exceeds fall 2018 baseline of 84% annually; 100% pass after more than 1 attempt	98/115
2c. Principals who observe first-year REAL teachers agree they can integrate technology effectively into curricula and instruction, including UDL (100%)	117/117

<i>Performance Measures</i>	<i>#</i>
2d. Principals who observe first-year REAL teachers agree they use technology effectively to collect, manage and analyze data to improve teaching and student achievement. (100%)	117/117
2e. Master teachers are effective mentors and teacher-leaders	40/40
Objective 3: Micro-credentials increase the expertise of REAL graduates and teacher-leaders in Green Dot schools, particularly in computer science.	
3a. REAL graduates and teacher-leaders earn one micro-credential	100
3b. REAL graduates and Green Dot teachers earn computer science micro-credential	45
3c. Teachers who complete micro-credentials write high-quality project-based lessons on micro-credential topics, including computer science (100%)	100/100
3d. Completers of micro-credentials indicate the micro-credential is i) of good quality, ii) prepared them to teach the topic, iii) increased their confidence to prepare a high quality lesson plan on the topic, including computer science. (85%)	85/100
Goal 2. Graduates of REAL are hired and retained as teachers in high-need Green Dot CA schools.	
Objective 4: Green Dot reduces staffing gaps by hiring REAL graduates in high-need schools	
4a. REAL graduates hired by Green Dot (100%)	117/117
4b. REAL grads hired by Green Dot are members of underrepresented groups (75%)	88/117
4c. REAL grads hired by Green Dot who teach high-need subject areas (100%)	117/117
4d. REAL graduates hired by Green Dot who teach in high-need schools (100%)	117/117
4e. REAL grads hired by Green Dot who teach students w/disabilities and students with limited English proficiency in their general education classrooms. (100%)	117/117
4f. Green Dot teacher jobs in math, science & English <u>not</u> filled by teachers with prelim or full credential falls below Aug 2019 baseline by Aug 2021 (2018=13%)	65/593
Objective 5: REAL teachers are retained in Green Dot schools at high rates	
5a. REAL grads employed for first time as teachers of record in the preceding year by partner high-need LEA and were retained for the current school year. (97%)	113/117
5b. REAL graduates who were employed by partner high-need LEA for three consecutive years after initial employment. (92%)	108/117
Goal 3. Highly qualified REAL teachers will increase student achievement in math, science and English.	
6a. Students of REAL-prepared teachers exceed students of comparison teachers in in English, math and science achievement by end of REAL teachers' 1st year of induction.	TBD
Goal 4. REAL partners' enhanced partnerships and improved capacities produce high-quality teachers for urban schools, continuing after the grant period.	
7a. REAL-trained master teachers lead PD beginning 2020-21.	4/yr/tchr
7b. REAL-trained teachers who complete pilot of CSUDH induction program earn full credential in grant year 4 (100%)	29/29
7c. CSUDH induction coursework available through College of Extended & International Ed. for REAL teachers in fall 2021; for others in fall 2022	fall 2021
7d. Green Dot begins hosting student teachers from CSUDH.	fall 2022
7e. CSUDH micro-credentials widely available through College of E&I Ed.	fall 2023

(iii) Project is designed to build capacity and yield results that will extend beyond grant

REAL will build capacity at CSUDH and Green Dot and enhance their partnership so they continue to produce high-quality teachers.

Building a Student Teaching Pipeline for Urban Schools: CSUDH and other IHEs often place student teachers in successful suburban schools because of the perception that high-need urban schools lack the capacity to provide quality clinical experiences. Currently, Green Dot CA schools do not host student teachers because they lack master teachers who can provide clinical experiences. REAL will train a minimum of 40 master teachers in Green Dot schools to be mentors and supervisors. They will be well-qualified to provide student teachers with excellent clinical experiences. Student teachers are often hired by the schools in which they complete their clinical experiences, so this will create a pipeline of teachers for Green Dot CA schools. The master teachers will enable Green Dot to host student teachers from CSUDH and other IHEs.

Strengthening Career Pathways: Green Dot CA believes that its educators should cultivate educational pathways that reflect their strengths and interests. REAL will support Green Dot's efforts to build educational leadership and deepen educators' professional practice. 1) Master teachers trained by REAL will become educational leaders. They will lead professional development, reducing Green Dot's reliance on external expertise. 2) Green Dot teachers will earn micro-credentials to increase their knowledge and expertise in their areas of interest. As a result, REAL will help Green Dot CA retain strong teachers by providing them with support and recognition of their excellence, while helping new and emerging teachers gain the skills necessary to become leaders in Green Dot CA. If micro-credentials are successful in REAL, CSUDH will offer them widely to educators across L.A. County through CSUDH's College of Extended & International Education to ensure micro-credentials are affordable. Teachers who receive credits can use them to earn salary points from their districts to increase their salaries.

Improvements to CSUDH Teacher Preparation: For REAL, CSUDH has designed a new supervision model that will provide residents with higher quality supervision that is informed by the context of their schools' challenges and circumstances. If this model is effective in REAL,

CSUDH will adopt it in other teacher preparation programs. In addition to offering better supervision, the new model, in which on-site master teachers are paid as university supervisors, will save the College of Education half of the cost to conduct required supervision. COE can use those savings to, e.g., hold mini-conferences or workshops for in-service teachers or offer test prep (CBEST, RICA and CSET) to applicants. Now, they pay for prep courses themselves, which is difficult for our low-income student population. Induction: Unlike other CSUs in L.A. County, CSUDH does not offer an induction program for general education teachers. Instead, CSUDH relies on other IHEs' or school districts' induction programs, which are not fully aligned with CSUDH teacher preparation or may repeat material. The new induction program, modified from CSUDH's induction program for special education teachers, will build on the REAL credential and master's program and will be available through the College of Extended & International Education to save teachers money.

Influencing the Field: In high-need urban schools, the main path for training math, science and English teachers is the university or district internship due to critical need. Interns become teachers of record after a short preparation program and earn preliminary credentials on the job. REAL will provide data on placement, retention, best practices and student achievement, enabling a comparative evaluation of teachers prepared by REAL and other methods. This will inform the decisions regarding the most effective systems of teacher preparation in the state.

Also, beginning in year 3, REAL staff, master teachers and residents will present findings and best practices at local and national conferences, e.g., California Council on Teacher Education, American Association of Colleges for Teacher Education, and American Educational Research Association. Many REAL team members have a history of active engagement in publishing and participating in events to share best practices and lessons learned with peer IHEs and other organizations. In collaboration with Green Dot CA, they will continue to publish with a focus on teacher preparation, teacher retention, and teacher effectiveness to advance the research and body of knowledge on teacher preparation.

(iv) Project represents exceptional approach for meeting statutory purposes & requirements

REAL strategies are an exceptional approach to improving teacher preparation in order to raise student achievement. *While a few of these strategies were included in STAR, those marked with an asterisk (*) represent enhanced or new components only in REAL.*

Recruiting 1) "Home-grown" teachers who are ethnically similar to their students and committed to urban education should increase retention and achievement; and 2) applicants will be academically well-qualified and meet all state requirements, including subject matter knowledge. Applicants will meet these state requirements before being formally admitted.

Improve quality of new teachers 1) Increase emphasis on quality clinical experiences via observation and participation before admission and during the credential program in the lab school and residency. 2) Close the gap between theory and practice in teacher preparation with fully integrated coursework and clinical practice, as well as master teachers and LEA personnel co-teaching certain courses. 3) Include a *focus on (*) literacy and writing* integrated across the content areas, plus a *(*) literacy micro-credential*. Residents must include literacy in their lesson designs in math and science, as well as English. 4) Substantial support from master teachers, instructional coaches, and cohorts in residency and induction, and *(*) Teacher Support Institute*. TSI provides vital supports for residents and new teachers, including instructional resources, child care during REAL activities, and individualized coaching and counseling from experienced lead teachers. 5) Provide a *(*) new induction program* that builds on CSUDH teacher preparation rather than repeating topics, and *(*) innovative model for supervision* by well-trained, expert teachers from the same school so that supervision reflects current standards and school context.

Enhance quality of educators 1) Master teachers' content knowledge and pedagogy will enhance all aspects of teacher training: observation, reflection and discussion, mentoring, supervision and coursework (co-teaching). Master teachers will build the capacity of Green Dot CA schools to deliver in-house PD and to prepare teachers of the future. 2) *(*) Micro-credentials* in computer science, fabrication lab technology, inclusive practices, literacy, NGSS and project-based learning will improve teaching skills and student achievement. REAL-prepared teachers

and Green Dot teachers will improve their practice and become resources for their peers on these topics. Micro-credentials will be offered to educators across L.A. County for greater impact.

In summary, the REAL design is of high quality, reflecting all elements of model residency programs. Coursework is rigorous and integrated with substantial clinical experience, e.g., observation and participation before formal admission, 100 hours of clinical experiences during Summer Academy, plus four (fall) and five (spring) full days in mentor teachers' classrooms during the residency. The Summer Academy allows participants to complete prerequisite courses to establish the foundations of teaching before entering the residency. REAL offers substantial support in a cohort design before and during residencies and through a two-year induction.

B. ADEQUACY OF RESOURCES

(i) Adequacy of support, incl facilities, equipment, supplies, and other resources

(e1-3) REAL has substantial support from CSUDH and Green Dot that will enable the project to achieve its goals. CSUDH's MSTI (Math Science Teacher Initiative) and TRP (Teacher Recruitment Program) state grants will support recruitment of REAL applicants, test prep for the CBEST basics and CSET subject-matter tests, teacher assistants for first-year REAL teachers, and portions of the project director's time and stipends for residents.

REAL will receive support from CSUDH's Fab Lab via the coordinator's time to train residents to use fabrication lab technology in the classroom, as well as use of the university's advanced fabrication equipment. Also, CSUDH will leverage private funding to cover costs of NGSS and fabrication lab training, plus supplies and instructional materials for the lab school.

The university will provide facilities for the Summer Academy, workshops and training, the time of CSUDH leaders on the REAL Council of Advisors, and faculty from the colleges of Natural & Behavior Sciences, Arts & Humanities and Extended & International Education to provide expertise. Also, CSUDH will subsidize cost of instruction through state funds.

Green Dot CA and the partner schools are contributing financial resources to ensure project excellence, including \$4,000 per resident toward stipends and \$3,000 per master teacher for stipends. Green Dot has agreed to pay for substitute teachers during master teachers' training,

compensate induction mentors for training, and compensate lead teachers for the high school lab school. Green Dot will provide classrooms for credential and master's courses, as well as lab school, Teacher Support Institute and more. Also, Green Dot will assign administrators to oversee the lab schools in collaboration with the REAL lab school administrator. More detail on personnel and facility resources is in the budget narrative and match documentation.

Beyond the grant, REAL will create a permanent pipeline for new teachers into Green Dot schools by training master teachers who can host student teachers from CSUDH and other IHEs. Most of these student teachers will be hired by Green Dot to relieve their chronic need for secondary teachers in high-need subjects. Also, master teachers will continue to provide induction mentoring to novice teachers and university supervision of student teachers. They will lead professional development, reducing Green Dot's reliance on external experts.

CSUDH will institutionalize the induction program and supervision model in its teacher preparation programs. Induction coursework, developed in REAL to fully align with CSUDH's teacher preparation programs, will be available through CSUDH's College of Extended & International Education at a lower cost to teachers. Micro-credentials, including computer science, to improve teachers' skills will be widely available through the College of E&IE. Also, CSUDH's mobile fab labs will bring technology to schools of REAL and veteran Green Dot teachers who earn the fab lab micro-credential for hands-on student learning.

(ii) Relevance & demonstrated commitment of each partner to implementation and success

The eligible partnership consists of CSUDH and its College of Education, College of Arts & Humanities, College of Natural and Behavioral Sciences, and College of Extended & International Education; five middle and four high schools that are a *consortium of high-need LEAs* in Green Dot Public Schools California; South Bay Workforce Investment Board and Los Angeles Coalition for the Economy and Jobs. The partners have demonstrated their commitment to REAL in letters of support and match commitment letters.

Cal State Dominguez Hills is an **eligible** partner institution. **iA:** For CSUDH to recommend a program completer for a preliminary credential, he or she must pass the California Teaching

Performance Assessment. (CalTPA recently replaced PACT). In its first use in fall 2018, 84% passed CalTPA. Over the prior 3 years (2015-16 to spring 2017), 89% passed PACT (Performance Assessment for California Teachers). 100% of graduates have content knowledge. In California, candidates must pass the California Subject Examinations for Teachers (CSET) or subject-matter preparation program to demonstrate subject matter knowledge before entering a credential program. To enter the credential program in 2017-18, 100% of CSUDH single-subject applicants passed the CSET or subject matter preparation program, and 97% of multiple-subject applicants passed the CSET. Also, 100% passed CBEST (California Basic Educational Skills Test), required for admission, in 2017-18. In 2016-17 (most recent from Calif. Commission on Teacher Credentialing), 82% of multiple subject and special education applicants passed RICA (Reading Instruction Competence Assessment). **iiA:** High academic standards are required to enter CSUDH teacher preparation program: 2.75 GPA in last 60 units, pass CBEST, demonstrate subject-matter knowledge. To stay in program: maintain B average and no grade lower than a C. Clinical experiences: University interns do 2 semesters of supervised field experience in their own classrooms; 4 semesters for special education. Student teachers do 1 semester of supervised teaching in a mentor teacher's classroom. **iiB:** All CSUDH teacher graduates meet applicable state certification and credential requirements: bachelor's degree, subject-matter knowledge, pass CalTPA (formerly PACT). **iiC:** CSUDH does not prepare early childhood educators. It does prepare highly qualified special education teachers who earn an added early ed authorization.

CSUDH is a four-year urban public institution in the city of Carson in Los Angeles County that enrolls 15,741 students (fall 2018). CSUDH is a Hispanic-Serving Institution and Minority-Serving Institution that offers educational opportunity to large numbers of low-income, first-generation college-goers from populations that are underrepresented in higher education. In fall 2018, 62% were Latino, 11% African American, 9% Asian American, 7% white, 7% nonresident alien or unknown, 3% two or more races, and less than 1% each Pacific Islander and American Indian. CSUDH's student profile is unique in the CSU system, which prepares half of the state's teachers: 61% of CSUDH undergraduates receive Pell grants (vs. 48% in CSU system), 76% are

from traditionally underrepresented groups (47% in CSU system), 48% are first in family to attend college (32% in CSU system) and 74% would be first in family to earn a degree (56% in CSU system). Of all 23 CSUs, CSUDH has the highest percentage of students who have all three of these factors: 30% vs. 16% for the CSU system. (CSU Institutional Research & Analyses). These demographics illustrate that CSUDH is truly serving its community and is ideally suited to prepare "home-grown" teachers for local schools.

CSUDH is accredited by the Council for the Accreditation of Educator Preparation and the California Commission on Teacher Credentialing. CSUDH prepares roughly 220 new teachers yearly who earn multiple-subject (elementary), single-subject (secondary) or education specialist (special education) credentials. CSUDH offers the traditional student-teaching and university intern options. Interns are classroom teachers without a preliminary credential who have fulfilled certain state and CSUDH requirements; they are supervised and supported for fieldwork in their own classrooms. With a five-year TQP grant that ends in Sept. 2019, CSUDH offers a teacher residency pathway called STAR with the L.A. Unified School District.

Green Dot Public Schools California Green Dot CA is a *consortium of high-need LEAs* that meet the requirements for an **eligible high-need LEA** applicant. Each Green Dot school is its own high-need LEA. **A1:** 61% of Green Dot CA families live in poverty, per applications for Free and Reduced Price Lunch; 95% of 11,583 students in 2018-19 were eligible for FRPL. **B2:** 13% of Green Dot CA's teachers have emergency, provisional or temporary intern credentials in 2018-19, much higher than California overall, in which 4.3% of teachers in public schools had permits, waivers or intern credentials in 2017-18 and 4% in 2016-17 (CCTC, 2019). **C3:** The partner Green Dot schools are **eligible high-need middle and high schools**. The percentage of students eligible for FRPL range from 92% to 100% at the partner schools: Animo Compton 99%, Animo Florence-Firestone 100%, Animo James B. Taylor 99%, Animo Mae Jemison 95%, Animo Western 95%, Animo Pat Brown 97%, Animo South LA Charter 92%, Animo Watts College Prep 95%, Locke College Prep 96% (Calif. Dept. of Ed, Dataquest, <https://dq.cde.ca.gov/dataquest/>). See Table 1 in Appendix C for more demographics.

Green Dot CA is a 501(c)3 affiliate of Green Dot Public Schools National, a nonprofit charter management organization created in response to requests to replicate Green Dot CA's successful model of transforming public education so that *all* students graduate prepared for college, leadership, and life. Green Dot CA's 21 schools were founded on a collaborative model of strong and empowered leadership, highly effective teaching, a college-prep curriculum, community engagement, and wraparound services to reduce nonacademic barriers to learning. *U.S. News & World Report* lists Green Dot high schools among the top 10% in the nation.

Over several decades, the communities Green Dot CA serves across South and East Los Angeles have experienced a decline in employment opportunities, educational outcomes and investment in infrastructure, resulting in comparatively high levels of poverty and crime. The students and families served by Green Dot CA universally exhibit high rates of poverty and need. In the ZIP codes that are home to the nine REAL partner schools, the median household income is \$37,477 and 30% of people live below the poverty line-vs. \$61,015 median income and 17% poverty in L.A. County (U.S. Census American Community Survey 2017). Free and Reduced Price Lunch applications indicate that Green Dot CA families earn significantly less than their communities' average: Green Dot CA's average household income is \$22,208, with 61% living in poverty. Also, though an average 8% of residents age 25+ in REAL schools' ZIP codes have a bachelor's degree or higher, 4% of parents at REAL schools do.

Table 1 in Appendix C illustrates the high percentages of poverty (96% NSLP) and underrepresented minorities (83% Latino and 16% African American) at the schools in REAL. Green Dot CA selected these schools because they represent four feeder patterns in its network of secondary schools that are in CSUDH's primary service area. The feeder patterns support continuity across the grade spans and ease scheduling and transportation for PD and other training, given the geographic proximity of the schools. The targeted schools include, in Green Dot CA parlance, both independent start-up schools and turnaround schools, which are district schools that Green Dot CA assumed control of in an effort to improve student achievement.

Partnerships: The project builds on a strong, five-year history of collaboration between CSUDH and Green Dot CA. Teacher candidates in CSUDH's federally funded Transition to Teaching and Secondary Special Education Interventionist Program have been placed in Green Dot schools. Green Dot human capital staff participate in recruitment and selection and have referred paraprofessionals to join TTT and SSETI. Green Dot attends operations meetings to discuss the progress of teachers placed in their schools. CSUDH places MSTI (state) and Noyce (federal) scholars as teacher assistants with first-year TTT and SSETI teachers in Green Dot schools. Green Dot monitors the scholars to ensure a positive experience for all. Green Dot and CSUDH meet monthly to review data on CSUDH-trained teachers in Green Dot CA schools.

The CSUDH College of Education and College of Natural and Behavioral Sciences have a long history of collaborating to prepare highly qualified STEM teachers. E.g., NSF-funded Noyce Scholars receive scholarships while completing STEM bachelor's degree before entering a teacher credential program, advising in the major for future teachers, internships and more. Faculty in the College of Arts and Humanities collaborate with COE, particularly English faculty (CBEST and CSET prep for teacher candidates) and foreign language faculty (bilingual methods and language learning courses for candidates, PD for teachers to support English learners). CNBS and CAH have subject matter preparation programs, which fulfill the state's requirement for subject matter knowledge for teachers in biology, chemistry, math and English, among others. CNBS and CAH faculty worked with COE faculty to design micro-credentials for REAL.

In addition to the core partners, South Bay Workforce Investment Board and Los Angeles Coalition for the Economy and Jobs will connect REAL staff to individuals and private entities to secure additional support for the project, as they have done in the past for other CSUDH initiatives. They will increase the impact of REAL by helping secure funding to expand the micro-credential programs, train more teachers as mentors and university supervisors, assist REAL in securing non-federal match, and expand the lab schools to serve more students, which will give REAL residents more opportunities to practice teaching with diverse students.

C. QUALITY OF THE MANAGEMENT PLAN

CSUDH will be the lead applicant and fiscal agent. The management structure will facilitate operational effectiveness and provide ways for the partners to give input and guidance into operations and management. The structure ensures that the project will achieve its objectives on time and within budget. Green Dot CA and CSUDH will formalize their partnership with an MOU that details their REAL roles and responsibilities. As noted, CSUDH and Green Dot have collaborated to place teacher candidates from two of CSUDH's federally funded programs. For these efforts, Green Dot CA and CSUDH developed an MOU that allows for the exchange of relevant project data, including student achievement and teacher candidates' demographics.

An Operations Team and a Council of Advisors will provide support and guidance to the PI, project coordinator and staff. The Operations Team will be responsible for operations day-to-day. The Operations Team will meet weekly during the fall of the first year and every other week thereafter, so that issues are addressed quickly. The Operations Team will include staff from Green Dot and CSUDH who have knowledge and skills vital to the project's success. The core members from CSUDH are the PI, project coordinator, two instructional coaches, lab school & micro-credential administrator; from Green Dot the project lead, human capital liaison, new teacher support liaison, operations & finance, and induction liaison. Other members will attend when meeting agendas cover their areas of expertise. To ensure collaboration between Green Dot teacher-preparation partners, Loyola Marymount University will be invited to attend every other operations team meeting to discuss best practices and common challenges.

Table 15. Key Personnel Roles and Qualifications

Role	Description
<i>Key CSUDH Operations Team Members</i>	
PI & Project Director Kamal Hamdan, EdD (50%)	<i>Responsible</i> for managing and overseeing operational, fiscal & admin aspects of project; disseminating best practices; securing match; credential program advisor. <i>Qualifications</i> PI on large gov't grants (e.g., Transition to Teaching, Teacher Quality Program, NSF Master Teaching Fellows, Math Science Teacher Initiative, NSF Noyce Scholarships). He is a career-changer: engineer to award-winning math teacher at high-need L.A. sch to professor of Teacher Ed.

Role	Description
Project Coordinator Xiomara Benitez (100%)	<i>Responsible</i> for oversight of marketing, recruitment, selection and support of residents; application & admission to CSUDH & cred. prog; coord. with Green Dot; liaising with financial aid, admissions & registration. <i>Qualifications</i> Dir. of oper. for CSUDH Calif. STEM Institute for Innovation and Improvement (CSIP); managed 5 federal grants. Oversees recruitment & selection of 500 applicants/year, placement & support of alternative cred. candidates & teachers.
Instructional Coaches	<i>Responsible</i> for facilitating seminars, observations and training and PD; assisting with lab school; observing & coaching residents and teachers; recruiting, selecting and training master teachers; coordinating TSI; assisting in micro-credential implementation; integrating literacy into lab school and coursework.
Jessica Renteria, Mathematics (50%)	<i>Qualifications</i> Secondary math education specialist for CSIP, taught in high-need urban schools for 5+ years; in-depth knowledge of standards and PBL; trained coach; led PD on NGSS, CCSS, PBL etc.
Geoffrey Peyton, Science (50%)	<i>Qualifications</i> Secondary science education specialist for CSIP, taught in high-need urban schools for 6 years; expert in NGSS based curriculum; led NGSS PD; expert in fabrication technology and PBL
Lilia Sarmiento, PhD, Literacy (50%)	<i>Qualifications</i> Professor of teacher education, current TED chair, taught in high need K-12 schools; expert in literacy and bilingual education; led PD for many schools and districts
TBD, English (50%)	<i>Qualifications</i> 5+ years of secondary English teaching; developed curriculum and led PD; expert in CCSS lesson planning and instruction; experience coaching teachers
Lab School Administrator (25%) and Micro-Credential/PD Administrator (25%) Laura Avendano	<i>Responsible</i> for overseeing lab school operations: coordinating with admin, recruiting & training lead teachers, curriculum; overseeing marketing & implementation of micro-credentials. <i>Qualifications</i> Director of STEM education & teacher devel for CSIP, taught math in high-need middle school 8+ years, expert in PBL and curric devel, clinical experience admin for 3 CSUDH federally funded projects
Key Green Dot Operations Team Members	
Project Lead Annette Gonzalez (10%)	<i>Responsible</i> for coordinating with Green Dot project team, host schools & CSUDH project team. <i>Qualifications</i> Green Dot CA chief academic officer, was area superintendent of a cluster of high-need schools, former high school principal, English & history teacher.
Human Capital Liaison Samantha Matamoros (20%)	<i>Responsible</i> for liaising with CSUDH team re recruitment, selection, and placement of residents and teachers, assisting with evaluation, recruiting and training master teachers, promoting micro-credentials. <i>Qualifications</i> Green Dot director of human capital; was on operations teams of CSUDH projects, familiar with credential progs

Role	Description
New Teacher Support Liaison Kris Terry (20%)	<i>Responsible</i> for liaising with CSUDH team to develop residents and teachers; training master teachers, co-planning monthly seminars, PD, TSI and lab school. <i>Qualifications</i> Green Dot director of new teacher development, former history teacher and principal at high-need high school. Was on operations team for similar federal project.
Induction Liaison Katherine Tolliver (10%)	<i>Responsible</i> for liaising with CSUDH team to develop residents on College Ready Teaching Framework and classroom management. <i>Qualifications</i> Green Dot induction/instructional specialist, former high school SPED teacher and content & curriculum coach.
Operations & Finance Michael Lopez (10%)	<i>Responsible</i> for assisting with budget, tracking costs and match. <i>Qualifications:</i> Green Dot VP of operations and finance, manages budgets for Green Dot CA schools and home office.

Additional Operations Team Members: **Kate Esposito**, PhD (20%), CSUDH professor of SPED: integrate SPED into credential and lab school curricula; SPED curriculum advisor. **Cindy Medina**, (20%) finance manager for CSUDH CSIP, will assist with budget and tracking costs. **Leona Matthews** (10%), Green Dot director of literacy programs: help develop teacher's knowledge in literacy, CCSS and ELD; literacy curriculum advisor. **Tessa Cedar**, (10%) Green Dot director of math & science programs: assist in developing teachers' knowledge of STEM content and standards; STEM curriculum advisor. **Susana Campo-Contreras** (10%), Green Dot director of SPED services: assist in developing teachers' knowledge of SPED content & compliance; SPED curriculum advisor. **Michael Garner** (10%), Green Dot knowledge management manager: assist with data collection.

The Council of Advisors will meet quarterly to help monitor progress, plan long-range implementation and institutionalize activities. The council will include the PI and operations team members Gonzalez and Lopez, plus experts who will guide design and implementation: Michael Spagna, Ph.D., CSUDH provost & VP of academic affairs; Samantha Mita, Green Dot CA VP of information and technology; Vital Research, external evaluators; Kim McNutt, dean, CSUDH College of Extended & International Education; John Davis, Ph.D., dean, CSUDH College of Education; Philip LaPolt, Ph.D., dean, CSUDH College of Natural and Behavioral Sciences; and Michael Kelley, executive director, L.A. Coalition for the Economy and Jobs.

To ensure institutionalization and dissemination, the PI will report monthly to the provost &

VP of academic affairs and the dean of the College of Education. The project coordinators will present to the chair of the Teacher Education Division monthly. The Council of Advisors will formally report to the Green Dot CA's leadership annually.

Project personnel will ensure that REAL meets its objectives according to the timeframe described in the table below. **Activities in bold repeat annually on the same schedule.**

Table 16. Project Timeline & Milestones

Activity	Primary Responsible Staff	Timeframe
Year 1 2019-2020		
Operations team meets	Proj dir & coord	Oct-Dec 19: weekly then every 2 weeks
Train REAL staff	Project dir	Oct 19
Recruit applicants	Proj coord, LEA HR	Oct 19, year-round
Orient principals to REAL	Proj dir & coord, LEA lead	Nov 19
Hold information sessions	Proj coord, LEA HR	Nov 19, year-round
Screen & interview applicants	Proj coord, LEA HR	Nov 19, year-round
Convene Council of Advisors	Project dir	Nov 19, quarterly
Recruit master teachers & lab school lead teachers	Lab school admin, LEA principals	Nov 19-Jan 20
Recruit students for lab sch	Lab school admin, LEA lead	Nov 19-Jan 20
Develop lab school curriculum	Lab school admin & lead teachers	Dec 19-Jan 20
Train lab school lead teachers	Lab school admin	Jan-Feb 20
Train master teachers	Project dir, instr coaches, LEA lias	Jan-July 20
Monthly seminars (applicants)	Instr coaches, LEA new tchr lias	Jan-May 20
Spring lab schools (Saturday)	Lab sch admin, LEA new tchr lias	Feb-May 20
Applicants observe at lab schs	Lab sch admin, instr coaches	Feb-May 20
REAL accepts 30 residents	Selection committee	May 20
Orientation for residents	Project dir & coord	May 20
Pre-summer academy survey	External evaluator	Early Jun 20
Summer Academy 10 weeks	Project coord, instr coaches, faculty	Jun-early Aug 20
Summer lab school	Lab sch admin, LEA new tchr lias	Weeks 3-7 of acad
Assign 30 residents to master teachers and schools	Project coord, LEA HR	Jul 24, 2020
Residents earn fab lab microcred	Project coord, instructional coaches	Early Aug 20
Post-summer academy survey	External evaluator	Aug 3, 2020
Partner interviews	External evaluator	July-Aug 20
Residency 4 days a week	Proj dir & coord, LEA new tchr liai	Aug 20-Jan 21
Coaching of residents	Instr coaches, LEA subject liaisons	Aug 20-Jun 21
Critical Friends in TSI	Instr coaches, LEA new tchr liaison	Aug 20-May 21
Review outcomes; prog improve	Proj dir, evaluator, operations team	1 mo after surveys

Activity	Primary Responsible Staff	Timeframe
Micro-credentials for veteran teachers	Micro-cred admin, LEA HR	Sep 20-Jun 21
REAL-trained master teachers lead 4 PDs/ academic year	LEA lead & LEA subject liaisons	Sep 20, ongoing
Activities beginning in Year 2 (2020-2021)		
Mid-year master tchr survey	External evaluator	Dec 20
Residency 5 days a week	Instr coaches, LEA new tchr liaison	Feb 21
University supervision	CSUDH student teaching coord	Feb-May 21
ID & train induction mentors	LEA induction liais, instr coaches	Feb-June 21
Residents take CalTPA	Faculty, proj coord	May 21
30 complete residency	Proj coord	June 21
30 receive preliminary cred	Proj coord	June 21
Survey residents & principals	External evaluator	June 21
30 placed in high-need LEA schs	LEA HR	June 21
Complete master's courses	Faculty, proj coord	June-July 21
30 pass comps exam for master's	Proj coord	Aug 21
30 begin 1st year of teaching & induction	Proj coord, LEA induction liaison	Aug 21
MSTI teaching assistants assigned to 1st year REAL tchrs	Proj coord, MSTI coord, LEA HR	Aug 21, ongoing
Interview principals	External evaluator	Aug 21, ongoing
CSUDH induction courses available thru College of E&IE	Proj dir, CE&IE dean	Sep 21, ongoing
Activities beginning in Year 3 (2021-22)		
REAL grads complete 1st year of teaching & induction	Proj coord, LEA induction liaison	Jun 22
REAL grads take micro-creds	Micro-credential admin	Jun 22, ongoing
Alumni survey	External evaluator	Jun 22
Analysis of student outcomes	External evaluator	Aug 22
REAL teachers begin 2nd year of teaching & induction	Proj coord, LEA induction liaison	Aug 22
Green Dot begins hosting student teachers	Proj dir, LEA HR, new tchr liaison	Sep 22
Disseminate evaluation findings	Proj dir, evaluator, LEA lead	Sep 22, ongoing
Activities beginning in Year 4 (2022-23)		
Conclude recruitment	Proj coord	May 23
REAL grads complete 2nd year of teaching & induction	Proj coord, LEA induction liaison	Jun 23
REAL grads get full credentials	Proj coord	Jun 23
Micro-creds avail thru CE&IE	Proj dir, CE&IE dean	Sep 23
Activities beginning in Year 5 (2023-2024)		
Supervision model institutionalized	Proj dir, College of Ed dean	May 24
Dissemination of final results	Proj dir, evaluator, LEA lead	May 24, ongoing

The PI will report progress and challenges at each meeting of the Operations Team and Council of Advisors to address issues early and develop a course of action. The Operations Team will use formative quantitative and qualitative evaluation data to assess progress toward objectives. In their reviews of data and service quality, which will occur at the first meeting after data are obtained, the team and evaluators will consider which changes should be made immediately and which for the following cohort. Each summer, the Operations Team will formally assess REAL's effectiveness and recommend improvements. The PI will report monthly to the College of Education dean and the Teacher Education Division chair to ensure institutionalization and dissemination. The project coordinator will present to the faculty of Teacher Education monthly and to the COE curriculum committee each semester. Through this continuous improvement process, REAL will achieve its objectives on time and within budget.

D. QUALITY OF THE PROJECT EVALUATION

(f4) The Operations Team will work with Vital Research (VR) to conduct a summative and formative evaluation of REAL. A comparative, longitudinal evaluation design will produce learning and action to ensure that REAL goals and objectives are met. Founded in 1982, VR is a research and evaluation consulting firm in Los Angeles, CA, with expertise in research design, monitoring and evaluation design, customized survey and instrument development, sampling design, cutting-edge data collection methods, advanced quantitative and qualitative analysis, and utilization-focused reporting. VR has worked with CSUDH since 2009 to evaluate several innovative approaches to teacher preparation, supported by grants from the U.S. Department of Education, the National Science Foundation, and the S. D. Bechtel, Jr. Foundation. The evaluation leads will be Dr. Harold Urman (PI), Dr. Cathy Coddington (day-to-day evaluation operations) and Janet Lee (lead analyst). See attached CVs.

(i) Methods of evaluation provide valid & reliable performance data on relevant outcomes.

To evaluate the implementation and outcomes of REAL, a quasi-experimental, longitudinal and mixed-methods design will be employed. The purpose of the formative evaluation is to collect and analyze data on the progress of project implementation, with a focus on the quality of

resident training, through a combination of project records, surveys, interviews, and focus groups with key actors (i.e., residents, master teachers, alumni, school principals, and Operations Team members). These data will provide feedback to the REAL Operations Team to understand what is working and where adjustments or improvements should be made to ensure that project goals are met. The purpose of the summative evaluation is to understand the extent to which the project goals are achieved and the impact of the project on stakeholders. (f11) Key aspects of the summative evaluation will include examining placement of REAL graduates in high-needs schools, retention of REAL graduates in high-needs schools, teacher effectiveness, and student achievement. The following data points will include the use of comparison groups allowing for a more robust assessment of project effects: REAL residents' performance on the California Teaching Performance Assessment with comparison to other CSUDH prepared teachers; REAL graduates' retention with comparison to other Green Dot teachers who did not graduate from REAL; and student standardized test scores with comparison to students of teachers matched by experience at non-participating Green Dot secondary schools who are not recent graduates of CSUDH credential programs.

For all data collection, existing instruments with adequate psychometric properties (e.g., Cronbach's alpha of 0.80) will be used when possible and if needed, tools will be developed and assessed in terms of validity and reliability to ensure that data collection methods adhere to industry standards. Table 17 shows data collection methods by performance measure.

Table 17. Summary of Goals, Objectives, Measures, and Data Sources

Goal 1: Recruit and prepare highly qualified middle and high school teachers in subjects matched to the needs of students in high-need Green Dot CA schools.	
Objective #1: REAL residents each earn single-subject credentials in math, science or English and master's degrees.	
Performance Measures	Data Source(s), time frame
1a. Recruit and enroll 120 qualified participants (4 cohorts of 30 each)*	Project records tracked by REAL staff, annually including: - total # of applicants - total # of qualified applicants
1b. Recruit and train 40 exemplary teachers as master teachers	

1c. 96% of residents earn preliminary single-subject credential within 1 year of program completion; 98% of residents earn credential in more than 1 year*	<ul style="list-style-type: none"> - time to earn preliminary credential - time to earn master's degree - resident persistence in project <p>*Disaggregated by gender, race and ethnicity, subject matter</p>
1d. 60% of residents earn preliminary single-subject credential in math or science within 1 year of program completion*	
1e. 90% of residents earn a master's degree in 15 months (90%); 100% of residents earn a master's degree in more than 15 months	
1f. 100% of residents enrolled in the program in previous grant reporting period, who did not graduate, persist in the postsecondary program in the current grant reporting period	
1g. Federal cost per program completer (year 5)	TBD
Objective #2: Residents become effective teachers.	
2a. 100% of residents maintain GPA of 3.0 in REAL	Project records, annually
2b. Residents' pass rate on first attempt at California Teaching Performance Assessment (CalTPA) exceeds fall 2018 baseline of 84% annually; 100% pass after 1+ attempt	College of Ed records, annually
2c. 100% of principals who observe first-year REAL teachers agree they can integrate technology effectively into curricula and instruction, including universal design for learning (UDL)	Principal survey, annually
2d. 100% of principals who observe first-year REAL teachers agree they use technology effectively to collect, manage and analyze data to improve teaching and student achievement	
2e. 100% of master teachers are effective mentors and teacher-leaders	<ul style="list-style-type: none"> • Observations conducted by instructional coaches using Green Dot rubric, annually • Participant, principal, master teacher interviews/focus groups, middle and end of project
Objective #3: Micro-credentials increase the expertise of REAL graduates and teacher-leaders in Green Dot schools, particularly in computer science.	
3a. 100 REAL graduates and teacher-leaders earn one micro-credential	Project records tracked by REAL staff annually that include: <ul style="list-style-type: none"> - Micro-credential completion rates - Number of micro-credentials earned per teacher <p>*Disaggregated by micro-credential topic, REAL grad or GD teacher, school</p>
3b. 45 REAL graduates and Green Dot teachers earn computer science micro-credential	

3c. 100% of teachers who complete micro-credentials write high-quality project-based lessons on micro-credential topics, including computer science	Portfolio assessment by instructors & instructional coaches using rubric, at each micro-credential conclusion
3d. 85% of completers of micro-credentials indicate the micro-credential is i) of good quality, ii) prepared them to teach the topic, iii) increased their confidence to prepare a high-quality lesson plan on the topic, including computer science	<ul style="list-style-type: none"> • Participant survey, annually • Participant interviews/focus groups, middle and end of project *Disaggregated by micro-credential topic, REAL grad or teacher, school
Goal 2: Graduates of REAL are hired and retained as teachers in high-need Green Dot CA schools.	
Objective #4: Green Dot reduces staffing gaps by hiring REAL graduates in high-need schools.	
4a. 100% of REAL graduates hired by Green Dot	LEA & project records tracked by REAL staff, annually
4b. 75% of REAL graduates hired by Green Dot are members of underrepresented groups	
4c. 100% of REAL graduates hired by Green Dot teach high-need academic subject areas	
4d. 100% of REAL graduates hired by Green Dot teach in high-need schools	
4e. 100% of REAL graduates hired by Green Dot teach students with disabilities and students with limited English proficiency in their general education classrooms	Disaggregated by race and ethnicity, subject area, school level
4f. Percent of Green Dot teacher jobs in math, science & English <u>not</u> filled by teachers with prelim or full credential falls below Aug 2019 baseline by Aug 2021 (Aug 2018: 13%)	Alumni survey, annually
4f. Percent of Green Dot teacher jobs in math, science & English <u>not</u> filled by teachers with prelim or full credential falls below Aug 2019 baseline by Aug 2021 (Aug 2018: 13%)	Green Dot records tracked by REAL staff, annually
Objective #5: REAL teachers are retained in Green Dot schools at high rates.	
5a. 97% of REAL graduates employed for the first time as teachers of record in the preceding year by the partner high-need LEA and were retained for the current school year	<ul style="list-style-type: none"> • LEA records tracked by REAL staff, start & end of school year • Interviews/focus groups with alumni, principals, Operations Team members, end of project
5b. 92% of REAL graduates who were employed by the partner high-need LEA for three consecutive years after initial employment	
Goal 3: Highly qualified REAL teachers will increase student achievement in math, science and English.	
6a. Students of REAL-prepared teachers will exceed students of comparison teachers in achievement in English, math and science by the end of REAL teachers' first year of induction.	California standardized tests: Smarter Balanced for math & ELA for grades 6-8 & 11 and California Science Test for grades 8 & 11, annually
Goal 4: REAL partners' enhanced partnerships and improved capacities produce high-quality teachers for urban schools, continuing after the grant period.	

7a. REAL-trained master teachers lead 4 PDs per academic year beginning 2020-21	LEA records, tracked by REAL staff, annually
7b. 100% of REAL-trained teachers complete pilot of CSUDH induction program and earn full credential in year 4	CCTC records, tracked by REAL staff, annually
7c. CSUDH induction coursework available through College of Extended & Int'l Education for REAL teachers in fall 2021; for others in fall 2022	<ul style="list-style-type: none"> • CE&IE records tracked by REAL staff, annually • Interviews with key Operations Team members, beginning, middle, end of grant
7d. Green Dot begins hosting student teachers from CSUDH in fall 2022	LEA & Teacher Ed records tracked by REAL staff, annually
7e. CSUDH micro-credentials widely available through College of Extended & Int'l Education in fall 2023	<ul style="list-style-type: none"> • CE&IE records tracked by REAL staff • Interviews with key Operations Team members, beginning, middle, end of grant

(ii) Methods of evaluation are thorough, feasible & appropriate to goals, objs & outcomes

Data for multiple performance measures will be obtained from project records tracked by REAL staff. In some cases, data will be drawn from the custom student tracking database that VR developed for and with CSUDH for prior teacher preparation grants and evaluations, while in other cases data from Green Dot's robust internal tracking system will be used. Project tracking data will be linked to residents' characteristics (e.g., race, ethnicity, gender), subject matter areas, and school-level data, as needed. In some cases, data will be provided by CSUDH's College of Education (e.g., full credential completion rates from the California Commission on Teacher Credentialing, CalTPA pass rates).

Multiple surveys will be adapted from existing instruments used in teacher-preparation or teacher-training projects funded by the U.S. Department of Education or NSF to obtain feedback from residents, alumni, master teachers, and principals on the quality of REAL resident preparation, and to obtain feedback from residents, alumni, and master teachers on their confidence and comfort in implementing key practices. In addition, in-depth interviews or focus groups will be conducted at different time points with residents, alumni, master teachers, principals and Operations Team members to add depth to the evaluation and better understand

their subjective experiences with REAL, their perceptions of project impact, and reflections regarding challenges and successes overall.

The evaluation plan includes several points of comparison, which will provide valuable information regarding REAL impact. For example, **Performance measure 2b** will be measured comparatively each year against the Fall 2018 baseline average CSUDH score on the CalTPA, with data supplied by the College of Education. For **performance measures 5a and 5b**, REAL graduate retention rates in Green Dot will be compared to the retention rates of new teachers in Green Dot schools who trained in other credential programs. For **Goal 3, performance measure 6a**, a quasi-experimental design will be used to compare standardized test outcomes (SBAC and CAST scores) of students whose teachers were trained by the REAL project to students whose teachers were not. Comparison teachers for each REAL cohort will be from demographically matched Green Dot schools and will be new to teaching. An Analysis of Covariance (ANCOVA) that controls for students' prior achievement and additional covariates as needed will test for differences between the comparison group and the standardized test outcomes of REAL participants' students, beginning with the data from REAL-trained teachers' first year of teaching, which is the first year of induction. Evaluation activities for **Goal 4** focus on using project records and interview/focus group data to assess the strength of the partnership and increased capacities of partners to produce high-quality teachers in high-need subject areas.

Feedback and Reporting: VR will participate in monthly project meetings to ensure that evaluation activities are responsive to project implementation. VR will provide annual reports to the Operations Team and quarterly updates on data collection and results, when feasible. A comprehensive final evaluation report will be developed to highlight key findings, challenges, and best practices for broader dissemination beyond the project team. Evaluation results and information (e.g., protocols, instruments, data collection calendar, etc.) will be available to the project team via a project website that will allow the team access from anywhere at any time.

COMPETITIVE PREFERENCE PRIORITY 1: Projects to improve student achievement or other educational outcomes in computer science

The computer science micro-credential will increase the number of teachers who are prepared to deliver rigorous instruction in computer science. The micro-credential is a series of seven graded courses (21 credit hours) to be take over summer, fall and spring semesters. The micro-credential meets the California Commission on Teaching Credentialing's requirements for a supplementary authorization in computer science. Supplementary authorization will allow teachers to teach classes in computer science and is recognized by all LEAs in California.

The requirements for the micro-credential are modeled after curriculum recommendations for K-12 computer science from the Computer Science Teachers Association and International Society for Technology in Education. Faculty in CSUDH's computer science department collaborated with faculty from the teacher education department to develop the micro-credential. Computer science faculty will teach the courses, with teacher education faculty as co-instructors. Each content module will be followed by a pedagogy session so that teachers also learn how best to deliver the content. Pedagogy will emphasize project-based lessons. With faculty and classmates, teachers will develop lessons, teach them, assess student work, reflect, modify the lessons and reteach them-like a lesson study cycle. The micro-credential meets the definition of computer science in the SEED notice inviting applications, as shown in Table 18.

Table 18: Courses Required for Computer Science Micro-Credential

Course	Units	Brief Description
Intro to Computer Hardware & Tools	3	Knowledge to pass CompTIA A+ certification. Troubleshoot and problem-solve. Understand networking, operating systems to mobile devices and security
Intro to Computer Science and Programming I	3	Fundamentals of computer hardware and software. Programming and object-oriented design. Computerized solutions to problems
Intro to Computer Science and Programming II	3	Fundamental programming concepts using arrays, records, pointers, linked lists, trees and recursion. Intro to analysis of algorithms. Intro to secure coding concepts and practices
Intro to Operating Systems & Networks	3	Basic networking concepts, e.g., TCP/IP, local/wide area networking, and emerging topics: RFID, GIS, NAS, WiMAX

Course	Units	Brief Description
Software Development	3	Advanced Java programming. Major aspects of object-oriented programming. Problem solving ability.
Discrete Structures	3	Fundamental structures and logical principles at the foundation of computer science. Write programs to deepen understanding
Data Structure	3	Measure of algorithm's complexity, arrays, linked list, stacks, queues, recursion, sorting, trees, hash tables, graphs.

Evidence that demonstrates a rationale: Teachers will gain knowledge about computer science and learn how to teach the content in grade 6-12 classrooms, with an emphasis on project-based learning. Teachers will gain confidence in their ability to teach computer science using PBL and will have high levels of satisfaction with PBL. (See logic model P. 4.)

Condliffe: A review of research on PBL in K-12 from 2000 to 2015 found evidence for PBL improving student learning was "promising but not proven." Some studies have found positive effects of PBL on science learning, as well as studies that found positive impact on engagement and motivation of students. For teachers to implement PBL well, they need initial professional development and continuing support, as well as belief their students can learn via PBL.

Strobel & van Barneveld: A synthesis of eight meta-analyses of PBL over 40 years determined that PBL was more effective versus traditional instruction for long-term retention of learning and that PBL produced higher satisfaction for students and faculty than traditional instruction. Although most meta-analyses involved medical students, some were from computer science and economics.

Finkelstein et al.: A randomized-controlled experiment on the effect of a PBL economics curriculum was implemented with 7,000 12th-graders in 66 high schools and included 40 hours of professional development for teachers. Students in the PBL curriculum outscored those in traditional instruction, and teachers of the PBL curriculum had higher satisfaction than teachers using traditional instruction.

Geier et al: Comparing results of inquiry-based to traditional instruction in science for 5,000 seventh- and eighth-graders in underserved middle schools, students in PBL scored higher.

Teachers received substantial professional development in PBL. PBL needs to be aligned with PD to improve outcomes for urban students.

CPP 1 References:

Condliffe, B. (2017). Project-based learning: A literature review. New York, NY: MDRC

Finkelstein, N., Hanson, T., Huang, C. W., Hirschman, B., & Huang, M. (2010). Effects of problem-based economics on high school economics instruction (PDF) (NCEE 2010-4110). Washington, DC: U.S. Dept of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West.

Geier, R., Blumenfeld, P. C., Marx, R. W., Krajcik, J. S., Fishman, B., Soloway, E., & Clay-Chambers, J. (2008). Standardized test outcomes for students engaged in inquiry-based science curricula in the context of urban reform. *Journal of Research in Science Teaching*, 45(8), 922-939

Strobel, J., & van Barneveld, A. (2009). When is PBL more effective? A meta-synthesis of meta-analyses comparing PBL to conventional classrooms (Abstract). *The Interdisciplinary Journal of Problem-Based Learning*, 3(1)