A Modern Approach to the integration of Programming and Mathematics is an Early-Phase proposal that addresses Absolute Priorities 1 and 3 and the Competitive Preference Priority.

In partnership with the East Baton Rouge Parish School System (EBRPSS), Louisiana State University developed a course, *Introduction to Computational Thinking* (ICT), that integrates teaching the fundamentals of computing, programming and mathematics reinforcement in a project-based setting with functions as the overarching theme.

We will recruit 9th grade students in 16 schools including rural, suburban and urban settings, expanding the implementation to 10 high schools in EBRPSS, and 7 rural schools in Evangeline, Pointe Coupee, Washington and West Feliciana. In total, 2,270 students will be directly served (71.6% underrepresented (URM) minorities, 73.8% economically disadvantaged, 34.5% rural).

Education Northwest will carry a fidelity of implementation study and evaluate the effect of ICT in 9th grade student outcomes in Algebra I using a student-level RCT study designed to meet WWC Standards without reservations. In addition, a student-level QED impact study designed to meet WWC Standards with reservations will test the effect of the overarching Pathway curriculum, where ICT is embedded, on more distal outcomes including accumulation of credits in CS and advanced math (including AP credits in both subjects), and graduation rates.

Activities and objectives:
1) refine the curriculum to better align it with math standards and make it more culturally relevant. The refined curriculum is expected to increase student math achievement, increased appreciation of computing and awareness of careers in the field;
2) deliver parts of the existing five-week teacher training online, to shorten the face-to-face part to twp weeks and better serve distant rural districts; and
3) to raise awareness of computing in parents and school administrators, to ensure equitable access by underserved students.