

Abstract:

The Louisiana Department of Education (LDOE) respectfully submits this Early-Phase proposal—[Improving Pre-Engineering and Computer Science Education through Micro-Credentialing]—for consideration of the Education Innovation and Research program in response to **Absolute Priority 1** [Demonstrates a Rationale] and **Absolute Priority 3** [Field-Initiated Innovations—Promoting STEM Education], as well as a **Competitive Preference Priority** to expand access to and participation in rigorous **computer science** coursework. To address these priorities, LDOE—in partnership with Louisiana State University, and BloomBoard, Inc.—propose to develop and implement a scalable set of micro-credentials that will provide a competency-based certification system for teachers of courses intended to prepare students in grades 9 through 12 for pre-engineering and computer science-related careers or college majors. RAND Corporation will oversee a rigorous evaluation of these micro-credentials. Project goals: (1) develop micro-credentials intended to provide a scalable, competency-based certification system for teachers; (2) implement the micro-credentials with a randomly-selected cohort of teachers; (3) improve teaching and learning through micro-credentialing; and (4) improve, spread and sustain the micro-credential model. This work is expected to have a direct effect on the access and participation of underrepresented students in rigorous pre-engineering and computer science courses. Over the course of this grant, over 100 teachers in 55 high schools in Louisiana will have the opportunity to complete a set of micro-credentials for the STEM Pathways in which they teach, impacting over 6,000 students who will receive more rigorous, high-quality instruction in pre-engineering and computer science. Seventy-two percent of those students will be “high-needs,” defined by the state through criteria that include being eligible for free- or reduce-priced lunch; reading two or more grade levels below grade level; identified as exceptional (excluding gifted or talented); failing to meet high school graduation requirements; and/or being the parent of a child.