

## **ABSTRACT: CARROLL COUNTY SCHOOLS**

Carroll County Schools (CCS) proposed i3 development grant focuses on *Absolute Priority 3: Improving STEM Education; priority area (a)*. In 2004, Southwire—a leading local manufacturer, developed *12 for Life* with CCS, as an innovative approach to applied, work-based learning through centralized integration of apprenticeships and high-school coursework to improve academic achievement. This model is novel and nationally significant due to: 1. The high frequency of exposure to STEM coursework and career training provided through multiple classroom and work shift options; 2. Curriculum and coursework are directly linked to hands-on duties within the manufacturing plant, offering STEM applied learning in a real-world setting; 3. We provide support services, including tutoring, mentoring, and work supervision, using a strengths-based approach to address academic and interpersonal barriers; and 4. We target students with the highest level of risk for dropping out. Using our novel approach to work-based, applied STEM learning through curriculum redesign, supported by technology enabled pedagogy, professional development, and applied learning supports, we will disseminate an innovative, evidence-based, model and curriculum, to advance STEM education theory, knowledge, and practice nationwide. Anticipated outcomes include improved STEM and applied learning pedagogy, enhanced student engagement, increased student achievement and capacity to succeed in STEM college and careers, and dissemination of the *12 for Life* model nationwide. We will double our current capacity (160) to serve 320 students (at any one time) over a three-county region, serving nearly 1,000 non-unique students by December 2017, through partnership with Southwire, Haralson County Schools, West Georgia Technical College and Georgia Department of Community Affairs. Through i3, *12 for Life* will evolve from a high-quality work-based learning program, to become the gold standard for full STEM immersion education.