

Professional Development for STEM Teachers

Data Centric STEM Instruction (DCSI) is a proposal from a partnership of high need school districts (Escambia and Walton), other Panhandle school districts (Santa Rosa and Holmes) and an institution of higher learning (University of West Florida) in the northwest panhandle area of Florida, to address the critical need of preparing effective STEM teachers by providing them with professional training on the importance of a Data-Centric View of any STEM discipline. Presented below is a summary of the DCSI.

DCSI is a professional development project for STEM instructors that at its nucleus has data as the fundamental concept regardless of the specific STEM discipline (math, science, technology, or engineering). Data is one of the most fundamental concepts in any STEM discipline and is the focus of any STEM career opportunity as well. DCSI focuses on all aspects of data (data generation, data collection, data storage, data retrieval, data visualization and data analysis) in various disciplines and design s instructional activities (lesson plans) for various topics using all aspects of data transformation listed above. This process of using DCSI in instructional activities also provides an avenue to practice integrated STEM instruction that research suggests has a high success rate in professional development activities. DCSI also shows a connection among STEM disciplines and the applicability of STEM to real life situations that depend on data.

DCSI will provide an opportunity for scientists, researchers and teachers to work closely together and actively participate in instructional activities including

- Designing lesson plans that will be submitted to CPALMS
- Intensive Summer professional Development activities
- Guest lectures by UWF faculty members in participating schools
- Opportunities for teachers to visit UWF and participate as guests in UWF classrooms and labs

Participate in research projects to gain knowledge of current trends in various STEM disciplines which can be shared with their students

DCSI will achieve these activities by incorporating technology and software that is freely available, thus providing equal opportunity for all interested schools and STEM teachers to use the resources developed in their classrooms.

DCSI is a collaborative effort among the school districts and the Institute of higher education working together with vested interests in improving the educational opportunities for our students. Specifically, the goal is to prepare our students to be globally competitive by improving their content knowledge and become problem solvers by understanding and manipulating the fundamental concept of STEM, which is, “Data”.