

## **Title IV Student and Academic Enrichment Grants**

P.K. Yonge Developmental Research School (P.K. Yonge) Title IV project will support the purchase of materials and supplies for continued implementation and expansion of the Project Lead the Way (PLTW) Gateway to Engineering Curriculum for all 6th through 8th grade students. Through middle school exploratory electives, all 6th through 8th grade students will be exposed to a rigorous, project-based, field-tested engineering/problem-based curriculum. For the 2020-2021 school year, P.K. Yonge will expand PLTW course offerings for high school students to include Digital Engineering, and Engineering Design & Development Capstone. In addition, P.K. Yonge anticipates increased enrollment in PLTW Principles of Engineering.

Approximately 396 6th through 8th grade students will be impacted by the proposed project. P.K. Yonge has offered the PLTW curriculum through middle school exploratory for the past five years, which has resulted in increasing student interest in selecting PLTW high school courses. In addition, P.K. Yonge's HS PLTW instructor will pilot Digital Engineering and Engineering Design & Development Capstone. It is expected that interest in and enrollment in these capstone courses will increase over the next few years as a consequence of transitioning to a 4 x 4 master schedule providing more opportunities for students to include elective courses in their schedules. Participating 6th through 12th grade students benefit from direct exposure to and engagement in the engineering design process, STEM problem solving, and project/problem-based learning. Engineering education supports the development and application of 21st century skills including communication, collaboration, creative and critical thinking.

To monitor the implementation of program activity and course enrollments, P.K. Yonge will utilize the Skyward student information system (SIS) to verify and review student enrollments each school year and to categorize, compare, and contrast overall program enrollment as well as demographic profiles of the enrollment in each PLTW course. P.K. Yonge will administer the PLTW program's Informative Assessments as well as end-of-course assessments to check for understanding and provide students with the dashboard of program completion and scores. During the capstone year, or 4th year in the high-school PLTW program, students completing the Engineering Design & Development course will have a portfolio exemplar in the forms of engineering documentation through notebooks, online platforms and project shares, and/or other related exemplars of their collective work and certificates.

The proposed project extends PLTW course offerings from the previous year for a myriad of reasons. First student enrollment in STEM courses are increasing at P.K. Yonge. Through the PLTW curriculum, students gain transportable skills such as problem solving, collaboration, communication, and project management. Due to increased participation and engagement in solving real-world challenges through relevant hands-on activities, projects, and problems in PLTW, students are finding new solutions to challenges that face the world. The proposed project also provides the opportunity to expand PLTW course offerings for high school students in 2020-2021 providing students the opportunity to complete the career technical education (CTE) engineering pathway. P.K. Yonge will also offer students the opportunity to get credentialed and/or certified in specific industry software, such as Autodesk and Adobe.