

## PROGRAM DESCRIPTION

Department of Higher Education and Workforce Development

HB Section(s): 3.135

Program Name: University of Missouri

Program is found in the following core budget(s): Missouri S&T Project Lead the Way

**1a. What strategic priority does this program address?**

Access and Success

**1b. What does this program do?**

Missouri University of Science and Technology will partner with Missouri secondary schools to increase the number of school districts utilizing Project Lead the Way (PLTW). This will include sponsorship of selected economically disadvantaged schools to pay basic PLTW fees.

PLTW helps students understand that STEM education is relevant in their lives and see potential for future careers. PLTW depends not only on rigorous and relevant pre-engineering and science curricula, but also on trained teachers to instruct the next generation of scientists and engineers. As a leading partner university, Missouri S&T will facilitate teacher training, provide supplemental professional development, and provide information on STEM education and careers for teachers, counselors and administrators throughout the Midwest. PLTW students (taught by PLTW teachers) are also exposed to STEM careers through professionals from local industries who supplement the curriculum through mentorships and workplace experiences.

The national PLTW emphasis has changed from a rural STEM focus to metropolitan STEM requiring slight changes to the program . The new emphasis incorporates the previous focus of building successful partnerships with Missouri schools with the addition of partnerships with Kansas City area businesses who can support PLTW instruction. This program will help selected economically disadvantaged schools to either begin or continue to participate in PLTW.

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### 2a. Provide an activity measure(s) for the program.

In FY 2017, a \$400,000 line-item appropriation was provided to fund Project Lead the Way in a 10 county area (Carter, Douglas, Howell, Oregon, Ozark, Reynolds, Shannon, Texas, Wayne, and Wright). This \$400,000 was reduced to \$113,000 by state appropriation withholdings that year. Subsequent year funding has been unstable. However, as of May 2020, all 10 counties have received initial funding with 30 of 42 or 71% of the school districts receiving funds impacting 8,570 students.

The national PLTW emphasis has changed. This will impact future data items to be used to measure participation:

	FY 2022 *	FY 2023 *
Teachers & Counselors attending core training	28-32	32-36
Teachers pursuing graduate level credit	28-32	32-36
Teachers & Counselors attending professional development	28-32	36-40
Students Impacted	8,000	9,900

*\*Target assumes fully funded.*

### 2b. Provide a measure(s) of the program's quality.

Participants in both PLTW core training and who pursue supplemental professional development at Missouri S&T will be surveyed as to the quality of PLTW content, the quality of supplemental professional development through Missouri S&T, and knowledge gained through interactions with Missouri S&T.

A key measure of quality comes from progress in education as relayed to us by the school districts:

"Our district will purchase robotic kits, consumable supplies, engineering kits and greenhouse materials for our after school program for grades 3-5. Course materials for STEM classes will be purchased along with computer program technology, model engines, electrical circuits, DNA testing supplies, Math manipulatives and calculators for our 6-12 graders." Total impact 355 students Bunker Hill R-III School District \$10,000.

"High school math classes will integrate technology into the math classroom with a set of chrome books. Elementary science will purchase a 3D printer for use in science." Bakersfield R-IV School District \$10,000

"We would utilize the funding to implement the Project Lead the Way LAUNCH program in grades K-5. The money would be used to train 3 teachers as LAUNCH instructors. Following this, one of the teachers will implement instruction for students in grades 4 and 5 during the After School Stem Academy...STEM classes will be implemented on a rotational basis to students in grades K-5 by the remaining 2 teachers. An additional 2 teachers will receive PLTW LAUNCH lead teacher training the following year. Of course, supplies and equipment for the modules will also be purchased utilizing the grant monies." Thayer R-II School District, \$20,000

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**2c. Provide a measure(s) of the program's impact.**

Participants in both PLTW core training and who pursue supplemental professional development at Missouri S&T will be surveyed as to the effectiveness and quality of PLTW content and knowledge gained through interactions with Missouri S&T.

Missouri S&T will seek input from other partner associations to measure the impact of what Missouri S&T is doing relative to this program. Partner associations will include the KC STEM Alliance, STEMSTL, and partner businesses associated with both PLTW and Missouri S&T.

Missouri S&T is also conducting research to show the impact of the PLTW curriculum on the success of students who were in PLTW in high school compared to their academic success, retention, and eventually completion rates at Missouri S&T, compared to students who did not have PLTW experience.

**2d. Provide a measure(s) of the program's efficiency.**

Number of teachers from new sponsored schools who took advantage of PLTW training because of newly sponsored PLTW membership, which will be measured as the number of teachers trained and dollar amount spent on sponsorship.

	<u>FY 2020</u>	<u>FY 2021</u>
New Teachers	30	32
Monies Spent on Sponsorship	\$180,000	\$242,500
* No funding in FY18 AND FY21		

The number of PLTW core trained teachers seeking graduate level credit compared to the number of teachers in PLTW core training.

	<u>FY 2020</u>	<u>FY 2021</u>
PLTW Core Trained Teachers	590	610
Teachers Expressing Interest in Graduate Level Credit	112	180
Teachers Completing Graduate Level Credit	92	110

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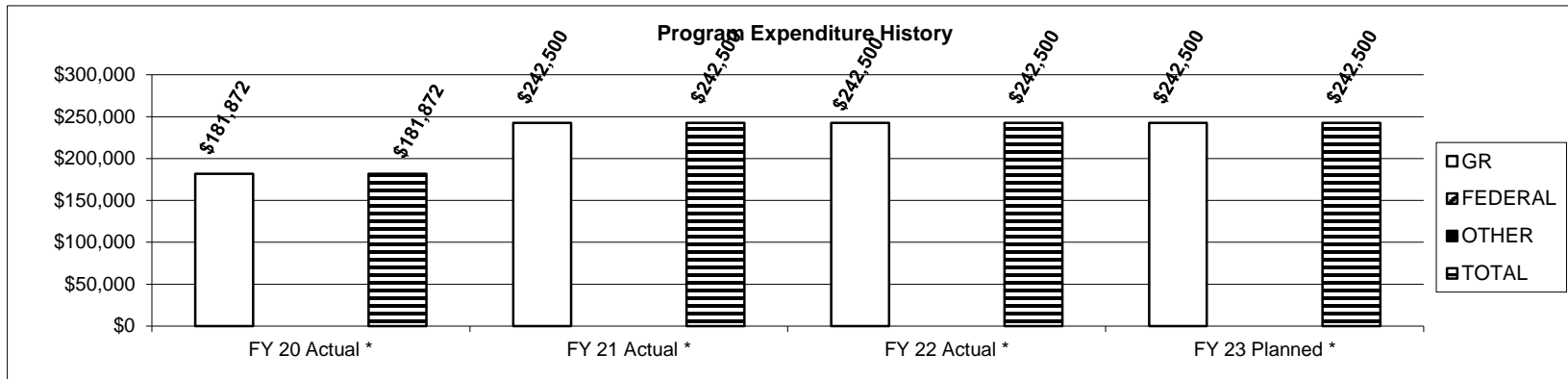
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3. Provide actual expenditures for the prior three fiscal years and planned expenditures for the current fiscal year. (Note: Amounts do not include fringe benefit costs.)



\*Net of Governor's 3% withholding in FY 2019 - FY 2022 and extraordinary withholdings in FY 2020.

4. What are the sources of the "Other " funds?

None

5. What is the authorization for this program, i.e., federal or state statute, etc.? (Include the federal program number, if applicable.)

Missouri University of Science and Technology is a component of the University of Missouri and falls under Section 172.010 - 172.950, RSMo.

6. Are there federal matching requirements? If yes, please explain.

No, however the goal is to have this program provide matching funds to leverage federal grant support.

7. Is this a federally mandated program? If yes, please explain.

No