Project Lead The Way Gateway Curriculum Proposal

Proposal to Adopt Curriculum
2020–2021

Presenters:
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Curriculum Writing Team

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Purpose

- Updated Project Lead The Way (PLTW) Gateway science curricula with supporting resources, materials and common assessments to be implemented in the 2020–2021 school year.

- Part of the update includes extending these PLTW Gateway courses from nine week rotations to semester long electives.

- Update course names to provide a better description of the curriculum.

Rationale

Updates to these courses are necessary to meet the demands of Project Lead The Way Gateway course requirements and also to extend the course from 9 weeks to a full semester course. We are also working toward opportunities to offer these courses as part of the Dual Language program.

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Writing Process

- Call to Committee
- Mapping the Curriculum, Writing Common Assessments/Rubrics, selection of resources
- Professional Development Team Feedback
- Curriculum and Instruction Plus Team Feedback
- Instructional Cabinet Feedback
- Instructional Council Steering/Instructional Council Feedback
- Board of Education Presentation

Resources for Curriculum Mapping

Resources used to help define what a student should know and be able to do as result of a quality science curriculum:

- PLTW Gateway Course Outlines
- Next Generation Science Standards
- UbD process
- Standard-Based Learning and Assessment Process

Learning Outcomes

Learning outcomes were developed using the UbD model:

Desired Results

- Transfer Goals
- Essential Understanding
- Essential Questions
- Knowledge Acquired
- Skills Acquired

Evidence

- Performance Assessments
- Additional Evidence

Learning Plan

- Unit Planning Tools

Assessment

Each course will administer three Common Assessments.

Common Assessment Data will be loaded in Infinite Campus.

Data will be pulled using Tableau.

Assessment- Continued

Individual teachers, PLC's, Administrators, and the District Science Team have access to the Tableau reports.

Tableau reports are used to refine the assessment, make instructional and curricular decisions, and design professional development.

Teachers are encouraged to complete a voluntary reflection survey to provide additional feedback to the District Science Team.

Curriculum Implementation

Spring/Summer of 2020: Begin professional development cycle for teachers.

School Year 2020–2021: Full implementation for all PLTW Gateway courses including common assessments.

Spring/Summer 2021: Monitor curriculum, resources, and professional development through common assessment data and teacher–student surveys.

PLTW Gateway Course Progressions

These courses could be taken in any order but the team strongly recommends that STEM Design and Modeling/PLTW is taken before STEM– Automation and Robotics/ PLTW.

Professional Development

Mandatory Sessions

- Guided planning with Standard–Based Learning Assessment process new curriculum and resource integration (1 Day)
- Common Assessment Calibration (1 Day)
- Complete PLTW course work to earn PLTW Certification

These sessions will be offered in person during summer, DCD, and PPD. A self–guided option will be available during the summer of 2020.

PLTW Design and Modeling

Course and Resources	# of Years of Access to Online License	Quantity Needed Total	Item Cost	Total Cost
Resources: STEM– Design and Modeling/PLTW				
PL Engineering Notebooks (120 Page Version) Annual		1,000	$2.75	$2,750.00
Ultimaker Three 3D Printers	6	8	$5,000.00	$40,000.00
3D Printer Service Annual	6	8	$500.00	$4,000.00
3D Printer Filament	1	64	$50.00	$3,200.00
VEX Cortex * (10 per building)	6	120	$250.00	$30,000.00
High Capacity Networkable Colored printer Model M652dn Manufacturer	6	4	$1,200.00	$4,800.00
PLTW Training		2	$1,500.00	$3,000.00
Travel Costs associated w/ PD		2	$2,000.00	$4,000.00
Total STEM–Design and Modeling				**$91,750.00**

PLTW Automation and Robotics

Course and Resources	# of Years of Access to Online License	Quantity Needed Total	Item Cost	Total Cost
Resources: STEM– Automation and Robotics/PLTW				
PL Engineering Notebooks (120 Page Version)		1,000	$2.75.00	$2,750.00
Ultimaker 3 3D Printers	6	8	$5,000.00	$40,000.00
3D Printer Service annual	6	8	$500.00	$4,000.00
3D Printer Filament	1	64	$50.00	$3,200.00
VEX Cortex * (10 per building)	6	120	$250.00	$30,000.00
High Capacity Networkable Colored printer Model M652dn Manufacturer	6	4	$1,200.00	$4,800.00
PLTW Training		2	$1,500.00	$3,000.00
Travel, housing associated w/ PD		2	$2,000.00	$4,000.00
Total STEM– Automation and Design				**$91,750.00**

Per Pupil Cost

STEM– Design and Modeling/ PLTW:
$91.75 per student

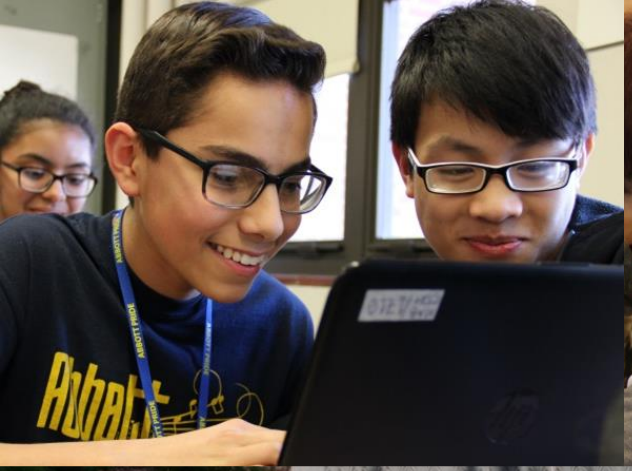
STEM– Automation and Robotics/ PLTW:
$91.75 per student

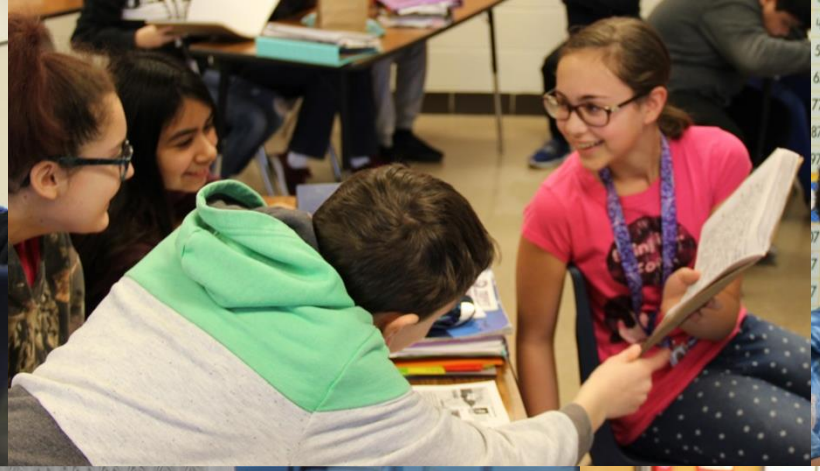
Total Program Cost:

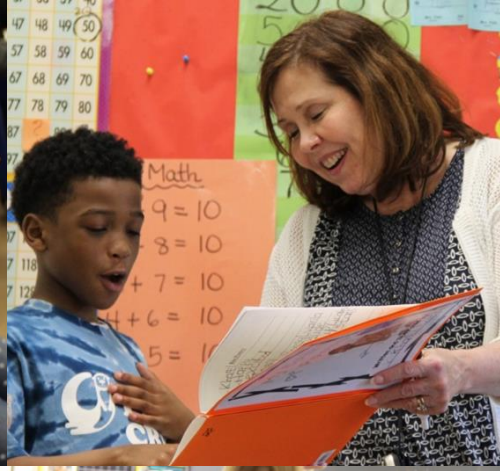
Total Cost of Curriculum and Resource Adoption
$183,500.00

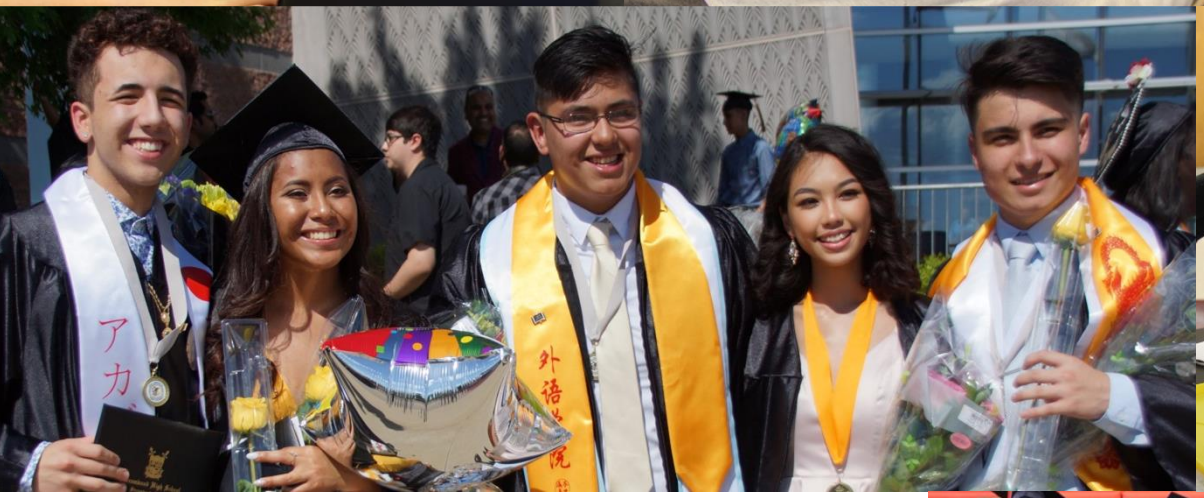
Next Steps

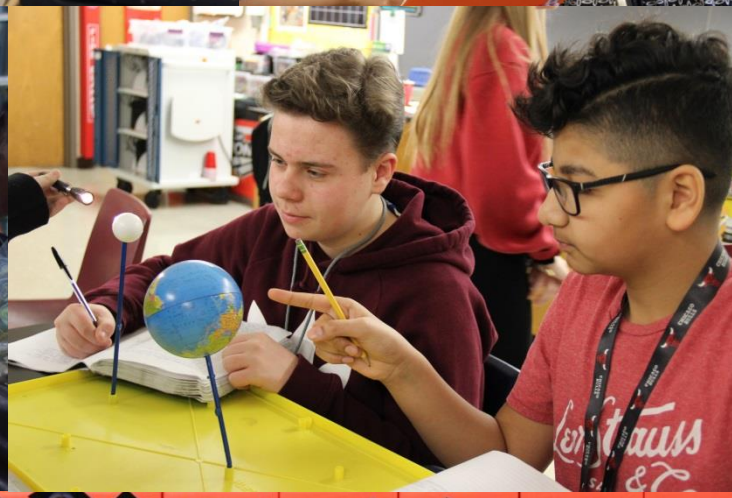
- Teachers will be given a post-survey identifying the strengths and areas of growth for the curriculum templates, resources, and assessments.
- Review and revise curriculum templates, rubrics, and assessments in accordance with the District Curriculum Cycle.
- Students will be given a post-course survey to gather feedback.











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