



Technology and Engineering Education Department

STEM MS and STEAM HS Updates

Aug. 06, 2026

Introductions



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Goal of Presentation



COS Updates



15 Min

Agenda



Background



Course/Curriculum Overview



Next Steps

Background



Late 19 th Century	Early 20 th Century	Late 20 th Century	Early 21 st Century	→Current
Manual Training	Industrial Arts	Technology Education	Technology and Engineering Education	STEM, STEAM, Maker, CTE, FAB LAB



Middle School STEM COS

Grade	2025 - 2026	2026 - 2027	2026 – 2027 Units	2026 – 2027 Overview
6	QUEST Grade 6	STEM 6	1. Introducing STEM Design Skills 2. STEM Engineering Design Process 3. Mission Manufacturing 4. Introduction to Robotics	STEM 6 is a rebranding of our QUEST Grade 6 course for a middle school format to ensure vertical integration and continuation of elementary school STEM concepts. STEM 6, 7, and 8 provide an opportunity for students to develop their skills from a beginner, to intermediate, to advanced middle school level. This project-based course is designed to strengthen technological literacy while developing the problem-solving, collaboration, and innovation skills necessary for success in an increasingly technological world. • Technical design and drawing skills are introduced using drafting tools and CAD • Open and closed ended design and engineering challenges are included using prototyping tools 3D printers, vinyl cutters and laser engravers. • Safety, hand tools and small machines are introduced using the woodshop. • Robotics is explored as we teach students to navigate our modern world.
7	Foundations of Engineering	STEM 7	1. Introducing STEM Design Skills 2. STEM Engineering Design Process 3. Concept to Creation 4. The Power of Digital Design 5. Automate and Innovate: Robotics Coding	
8	Principles of Engineering	STEM 8	1. Introducing STEM Design Skills 2. STEM Engineering Design Process 3. Concept to Creation 4. The Power of Digital Design 5. Automate and Innovate: Robotics Coding	



High School STEAM Robotics COS

Grade	2025 - 2026	2026 - 2027	2026 – 2027 Units	2026 – 2027 Overview
HS	Physical Computing Robotics 1 and Physical Computing Robotics C+ +	STEAM Robotics 1, STEAM Robotics 2	1. Introduction to STEAM Robotics 2. Measuring, CAD and 3D Print 3. Robotics Kit Components Overview 4. Robotics Kit Methods 5. STEAM Engineering and Robotics Project Process 6. STEAM Robotics Portfolio	STEAM Robotics 1 and STEAM Robotics 2 are the final versions of our Robotics courses piloted as Physical Computing Robotics 1 and Physical Computing Robotics C++. • A project-based course designed to develop students' knowledge and skills in robotics, engineering design, physical computing, and digital fabrication. • Students explore the principles of mechanical design, electronics, automation, and problem-solving through hands-on experiences using Turn-Key Robotics systems, microcontrollers, (CAD), and 3D printing technologies. • The course emphasizes creativity, innovation, collaboration, and critical thinking while introducing industry-relevant technologies and career pathways in engineering, manufacturing, automation, and computer science. • Courses focus on all aspects of Robotics, physical computing, electronics, measurement, structure/motion/control and are located in a traditional classroom.



High School STEAM Design COS

Grade	2025 - 2026	2026 - 2027	2026 – 2027 Units	2026 – 2027 Overview
HS	Exploring Engineering and Architecture, Engineering and Architecture 1, Engineering and Architecture 2, Engineering and Architecture 3 (CB South and CB West), Exploratory Architecture Design, Architectural Design 1, Architectural Design 2, Architectural Design 3 (CB East)	STEAM Design 1 Exploring, STEAM Design 1, STEAM Design 2, STEAM Design 3	1. Introducing STEAM Design 2. Measuring 3. Conventional Design Tools and Modeling Methods 4. Digital and Machine Design tools and Modeling Methods (Exploring) or Digital and Robotic Design Tools and Modeling Methods (level 1 – 3) 5. STEAM Engineering and Design Project Process 6. STEAM Design Portfolio	STEAM Design 1 Exploring, STEAM Design 1, STEAM Design 2, and STEAM Design 3 are a more modern version of our former Engineering and Architecture (South and West) and Architectural Design (East) courses. • These are project-based courses designed to develop students' knowledge and skills in architectural design, engineering design, CAD, and model building • Students explore residential and mechanical design while developing their problem-solving abilities through hands-on experiences using technical sketching techniques, measuring using a scale, CAD, physical and digital modelling technologies,. • Students engage in the engineering design process to design, build, program, test, and improve design systems that solve authentic challenges.



High School STEAM Fabrication COS

Grade	2025 - 2026	2026 - 2027	2026 – 2027 Units	2026 – 2027 Overview
HS	Exploratory Materials Engineering, Materials Engineering 1, Materials Engineering 2, Materials Engineering 3 (CB South and CB West) Engineering 1, Engineering 2 (CB East)	STEAM Fabrication 1 Exploring, STEAM Fabrication 1, STEAM Fabrication 2, STEAM Fabrication 3	1. Introducing STEAM Fabrication 2. Measuring 3. Conventional Fabrication Tools and Machines 4. STEAM Engineering and Fabrication Project Process 5. STEAM Fabrication Portfolio	STEAM Fabrication 1 Exploring, STEAM Fabrication 1, STEAM Fabrication 2, and STEAM Fabrication 3 are a more modern version of our former Materials and Engineering (South and West) and Engineering (East) level high school courses. • These course ensures vertical integration and continuation of middle school STEM concepts with a focus on technical sketching, CAM, fine project creation and measuring accurately using a tape measure within the material and engineering world. • Focus on Materials and Engineering, CAM, measurement, real-building, project-based, located in a Wood Lab • Students engage in the engineering design process to design, build, program, test, and improve design systems that solve authentic challenges. • These courses emphasizes creativity, innovation, collaboration, and critical thinking while introducing industry-relevant technologies and career pathways in engineering, manufacturing, automation, and computer science.



Next Steps



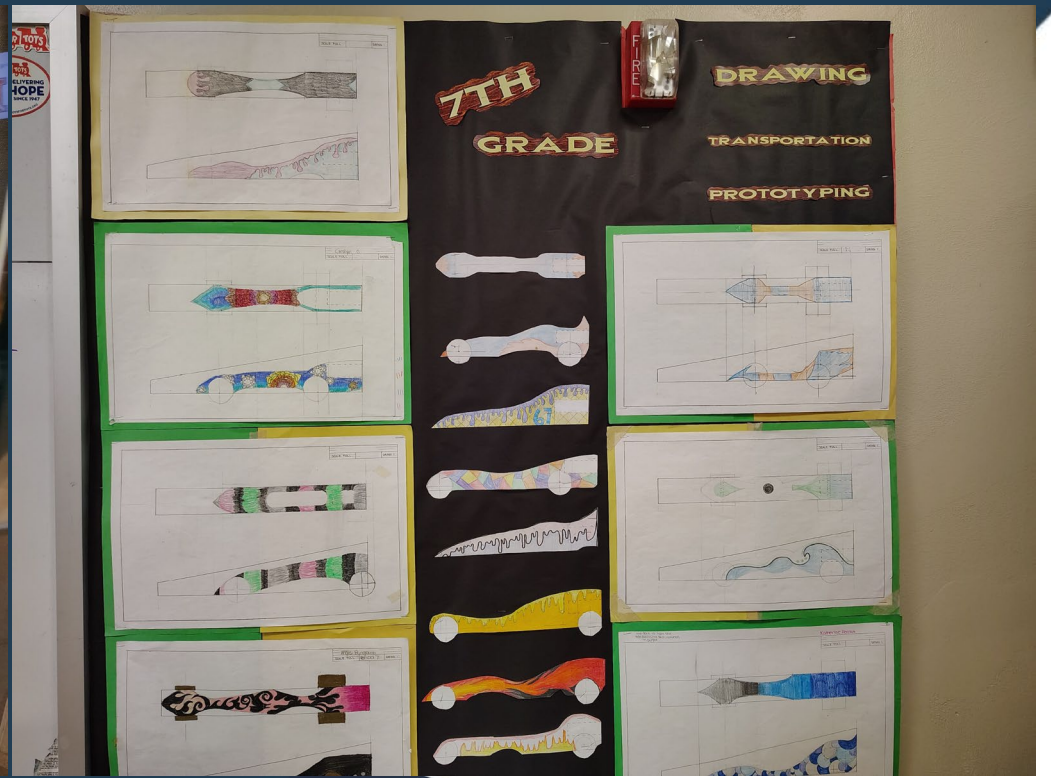
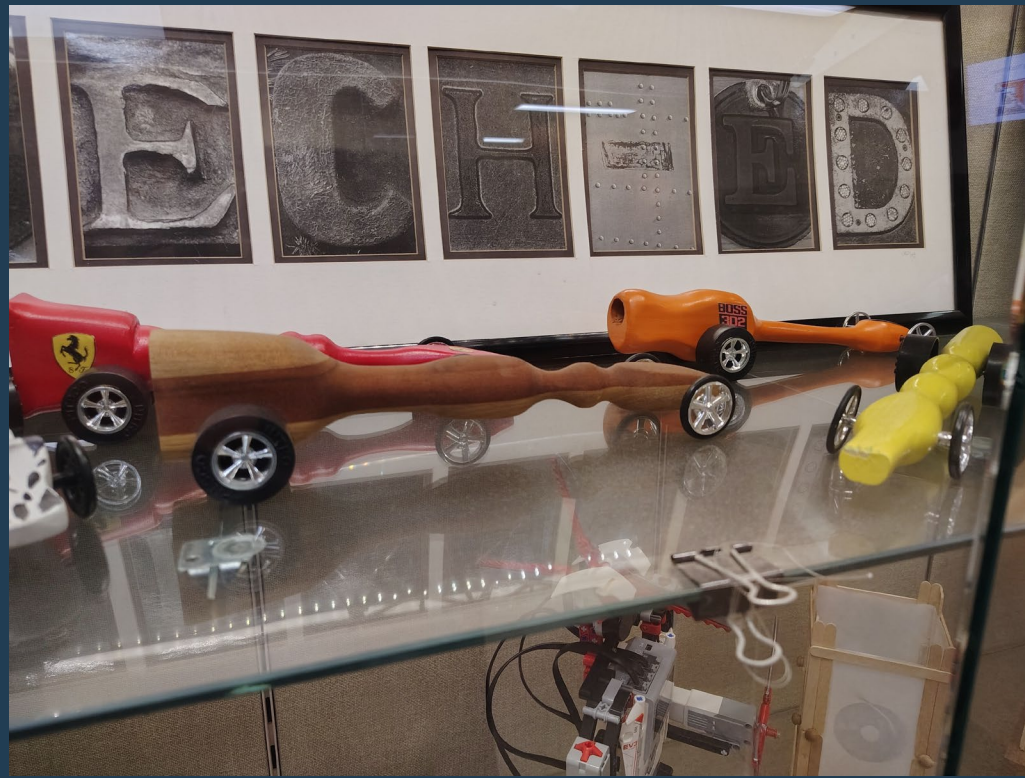
Requesting Approval of All Courses



Continue Professional Learning Opportunities



Monitor Implementation and Make Adjustments as Needed



Thank you!

Aug. 06, 2026