ENGINEERING: PLTW ENGINEERING

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

	Courses
9th	**Engineering Essentials (PLTW):** TBD
10th	**Introduction to Engineering Design (PLTW):** STH07422AB
11th	**Engineering Science:** STH03742AB OR **Computer Integrated Manufacturing (PLTW):** STH37482AB OR **Aerospace Engineering (PLTW):** STH37452AB OR **Civil Engineering and Architecture (PLTW):** STH37472AB
12th	**Engineering Design and Problem Solving[1]:** ST37302AB OR STH37302AB OR **Paid Practicum in STEM[3]:** ST37405AB OR STH37405AB

Enrichment Courses:
- **Robotics I[2,3]:** ST37002AB OR STH37002AB
- **Robotics II:** ST37003AB OR STH37003AB

Certification Options:
- Industry Certification Opportunities for Performance Acknowledgment: Autodesk Certified User-Inventor[1]; Certified SolidWorks Associate[2]
- Not Counted Towards Performance Acknowledgment: OSHA 10-Hour General Industry[3]

Available At:
- Arlington Heights HS
- Benbrook HS
- Carter-Riverside HS
- Diamond Hill-Jarvis HS
- Dunbar HS
- Eastern Hills HS
- North Side HS
- OD Wyatt HS
- Paschal HS
- Polytechnic HS
- South Hills HS
- Southwest HS
- Western Hills HS
- Young Men's Leadership Academy HS
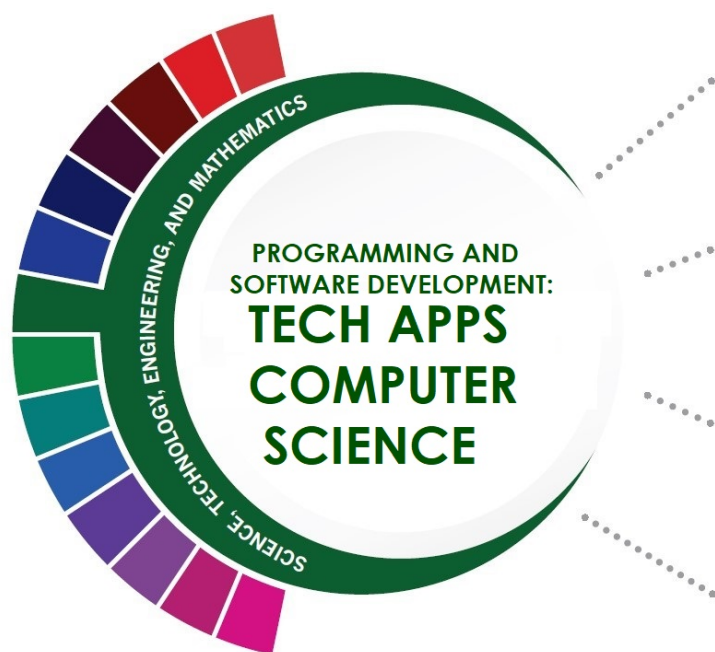- Young Women's Leadership Academy HS

The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. Students will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the PLTW Engineering program of study will fulfill requirements of the Business and Industry or STEM Endorsement. Approved Statewide Program of Study - September 2019.

9th	**Computer Science I:** 2151AB OR 2141ABH OR **AP Computer Science Principles:** 2157AB
10th	**AP Computer Science Principles:** 2157AB OR **AP Computer Science A (MATH):** 2142AB
11th	**AP Computer Science A (MATH)[1,2]:** 2142AB OR **Computer Science III[1,2]:** 2155AB OR 2145ABH
12th	**Computer Science III:** 2155AB OR 2145ABH OR **Discrete Mathematics for Computer Science:** ST80370AB OR STH80370AB OR **Independent Study in Technology Applications:** 2144AB OR 2146AB OR 2148AB

Enrichment Courses:
- **Independent Study in Technology Applications:** 2144 AB, 2146 AB, 2148 AB

Certification Options:
- Industry Certification Opportunities for Performance Acknowledgment: Microsoft Technology Associate Introduction to Programming Using Python[1], Microsoft Technology Associate Introduction to Programming Using Java[2]
- Not Counted Towards Performance Acknowledgment: N/A

Available At:
- Arlington Heights HS
- I.M. Terrell Academy HS
- Paschal HS
- South Hills HS
- Trimble Technical HS

The Programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Programming and Software Development program of study will fulfill requirements of the STEM Endorsement. Approved Statewide Program of Study - September 2019.