Plano ISD – STEM Endorsement Pathways

Within the requirements of the 26 credits to earn an endorsement, including Algebra II, chemistry, and physics, a student must complete one of the following course areas below (A, B, C,D, or E), to meet the STEM Endorsement criteria.

A) Career and Technical Education (CTE)

A coherent sequence of courses for four or more credits in CTE that includes:

- at least two courses in the same career cluster; and
- at least one advanced CTE course; and
- the final course in the sequence must be obtained from the CTE STEM career cluster courses

See attached CTE Course Choice List

Or;

B) Computer Science

A coherent sequence of four credits in computer science selected from the following:

Computer Science I; Computer Science II; Computer Science III;
AP Computer Science; IB Computer Science SL or HL;
Game Programming and Design

Or;

C) Math

Three credits in mathematics including Algebra II and two additional math courses for which Algebra II is a prerequisite (for a total of 5 math credits)

	Credit 1	**Credit 2**	**Credit 3**	**Credit 4**	**Credit 5**	
	Algebra I or Algebra I Honors	Geometry or Geometry Honors	Algebra II or Algebra II Honors	• Precalculus or Precalculus Honors • AQR • MIS • AP Computer Science • AP Calculus AB (must be taken after Precalculus) • AP Calculus BC (must be taken after Precalculus) • AP Statistics (must be taken after or concurrently with Precalculus)		
If in the IB program… **(HL)**	Algebra I Honors or Algebra I IH	Geometry Honors or Geometry IH	Algebra II IH	Precalculus IH	Math HL Year I (BC Calculus)	Math HL Year 2
If in the IB program… **(SL)**	Algebra I Honors or IH	Geometry Honors or IH	Algebra II or Algebra II IH	Precalculus or Precalculus IH	Math SL	

*if in the IB program, must also satisfy requirements of the IB diploma

Or Course Area D – see next page;

D) Science

Four credits in science, including chemistry, physics, and two additional science courses (for a total of 5 science credits)

	Credit 1	Credit 2	Credit 3	Credit 4	Credit 5	
	Biology or Biology PreAP	Chemistry or Chemistry PreAP	**Physics or Physics PreAP**, and any two courses selected from: • Anatomy and Physiology • AP Biology (1.5 AP Biology + 0.5 Honors Research & Design) • AP Chemistry (1.5 AP Chemistry + 0.5 Honors Research & Design) • AP Physics 1/2 • AP Physics C • Engineering Design and Problem Solving • Environmental Systems • AP Environmental Science • Honors Scientific Research and Design • Food Science • Forensic Science • Principles of Engineering (PLTW)			
If in the IB program…	Biology IH	Chemistry IH	Physics, IB Physics SL, or Physics Pre-AP	Any two courses selected from: IB Physics HL IB Biology SL IB Biology HL IB Chemistry SL IB Chemistry HL Environmental Systems SL		

*if in the IB program, must also satisfy requirements of the IB diploma

Or,

E) Combination of two areas from among CTE, computer science, mathematics, and science

In addition to Algebra II, chemistry, and physics, a coherent sequence of three additional credits from no more

than two of the categories (**A,B,C,D**) above.

Career & Technical Education
Plano Independent School District

CTE Path: STEM Endorsement Course Choices

Within the requirement of the 26 credits to earn an endorsement, including Algebra II, chemistry, and physics, a student must complete the following.
A coherent sequence of four or more credits in CTE that includes:

- at least two courses in the same CTE career cluster from **BOX 1**; and
- at least one advanced CTE course from **BOX 1;** (designated with "A"); and
- the final course in the sequence must be obtained from the CTE career cluster listed in **BOX 2**

Note: Select a sequence of courses that total 4 (or more) credits and meet the criteria above. The total number of courses is not a factor.

BOX 1

Agriculture, Food & Natural Resources
Principles of Agriculture, Food, & Natural Res. (.5) 9-10
Veterinary Medical Applications A (1) 11-12
Landscape Design & Turf Grass Management (.5) 9-12
Agricultural Mechanics & Metal Technologies A (.5) 11-12
Practicum in Agriculture: Vet Med Assistant A (2) 11-12

Architecture & Construction
Architectural Design A (1) 11-12
Advanced Architectural Design A (2) 11-12

Health Science
Principles of Health Science (1) 10-12
Medical Terminology A (.5) 9-12
Health Science: Pharm Tech A (1) 12
World Health Research A (1) 11-12
Practicum in Health Science A (2) 11-12
Practicum in Health Science II A (2) 12
Anatomy & Physiology A (1) 11-12 (science credit)

Hospitality & Tourism
Food Science A (1) 11-12 (science credit)

Information Technology
Internetworking Technologies I-Cisco A (1) 11-12
Internetworking Technologies II-Cisco A (1) 11-12

Law, Public Safety, Corrections & Security
Forensic Science A (1) 11-12 (science credit)

Manufacturing
Welding A (2) 12

Science, Technology, Engineering & Mathematics
Engineering Design & Presentation A (1) 11-12
Honors Scientific Research & Design A (1) 10-12 (science credit)
Honors Scientific Research & Design II A (1) 11-12
Honors Scientific Research & Design III A (1) 11-12
Engineering Design & Prob Solve A (1) 11-12 (science credit)
Gateway to Technology PLTW (.5) 8 (high sch elective credit)
Introduction to Engineering Design PLTW (1) 9-10
Principles of Engineering PLTW A (1) 10-12 (science credit)
Aerospace Engineering PLTW A (1) 11-12
Engineering Design & Development PLTW A (1) 12

Transportation, Distribution & Logistics
Automotive Technology (1) 11-12
Automotive Technology (2) 11-12
Advanced Automotive Technology A (2) 11-12
Collision Repair and Refinishing (2) 11-12
Advanced Collision Repair and Refinishing A (2) 11-12

BOX 2

Science, Technology, Engineering & Mathematics
Engineering Design & Presentation A (1) 11-12
Honors Scientific Research & Design A (1) 10-12 (science credit)
Honors Scientific Research & Design II A (1) 11-12
Honors Scientific Research & Design III A (1) 11-12
Engineering Design & Problem Solving A (1) 11-12 (science credit)
Gateway to Technology PLTW (.5) 8 (high school elective credit)
Introduction to Engineering PLTW (1) 9-10
Principles of Engineering PLTW A (1) 10-12 (science credit)
Aerospace Engineering PLTW A (1) 11-12
Engineering Design & Development PLTW A (1) 12

Courses may not be offered on all campuses. Check with campus counseling department for more information.