

2025 – 2026 STEM Cluster Sequence of Courses

Pathway: Engineering and Technology

State Program		1	2	3	4	CIP & SOC Suggestions
SC0026005 Aerospace Program 480 hours OCAS 9879	Pilot 480 hours	8874 Aviation I 120 hours Launching into Aviation Exploring Aviation & Aerospace	8875 Aviation II 120 hours Introduction to Flight Aircraft Systems Performance	8876 Aviation III – Pilot 5010 Aeronautics 120 hours The Flying Environment Flight Planning	8705 STEM Capstone 8883 Aerospace Capstone 120 hours Preflight Your Career Pilot Capstone	Other Course: 8877 Aviation IV CIP: 36.0202 - Aircraft Pilot (Private) SOC: 99-9999 - No Match
SC0026006 Aerospace Program - Advanced 960 hours OCAS 9879 & 9880	Unmanned Aircraft Systems 480 hours	8874 Aviation I 120 hours Launching into Aviation Exploring Aviation & Aerospace	8875 Aviation II 120 hours Introduction to Flight Aircraft Systems & Performance	8876 Aviation III – UAS 5010 Aeronautics 120 hours The Flying Environment UAS Operations	8705 STEM Capstone 8883 Aerospace Capstone 120 hours A World of UAS UAS Capstone	Other Courses: 8877 Aviation IV CIP: 36.0207 - Remote Aircraft Pilot SOC: 99-9999 - No Match
	General Aviation Maintenance 480 hours	8886 Applied Sciences of Aircraft Maintenance 120 hours	8887 Basic Electricity 120 hours	8885 Aircraft Materials and Corrosion Control 120 hours	8883 Aerospace Capstone 8990 Work-Based Learning I – STEM 8721 STEM Internship 120 hours	CIP:15.0801- Aeronautical/Aerospace Engineering Technology/Technician SOC:17-3021- Aerospace Engineering and Operations Technicians Or CIP: 47.0607-Airframe Mechanics and Aircraft Maintenance Tech/Technician SOC: 49-3011.00 –Aircraft Structure, Surfaces, Riggins, and Systems Assemblers

Pathway: Engineering and Technology

State Program		1	2	3	4	5	6	7-9	10-12
SC0026009 Computer Science Program 480 hours OCAS 9874	Computer Science 1440 hours	2536 AP CS Principles 120 hours	2535 AP Computer Science A 120 hours	8160 Advanced Programming 120 hours	8871 Python 120 hours	8861 PLTW Cybersecurity 8256 Cybersecurity Basics 120 hours	8705 STEM Capstone 8716 PLTW Capstone 120 hours	College Prep Math Year 1-3 360 hours	College Prep Lab Science Year 1-3 360 hours
SC0026002 Computer Science Program – Adv 960 hours OCAS 9874 & 9875	Computer Science 960 hours	2536 AP CS Principles 120 hours	2535 AP Computer Science A 120 hours	8861 PLTW Cybersecurity 8256 Cybersecurity Basics 8160 Adv Programming 120 hours	8705 STEM Capstone 8716 PLTW Capstone 120 hours	College Prep Math Year 1-2 240 hours	College Prep Lab Science Year 1-2 240 hours	CIP and SOC Suggestions CIP: 11.0201 Computer Programming/Programmer, General SOC: 15-1251.00 - Computer Programmers	
SC0026013 CS Academy 1440 hours OCAS 9874, 9875, 9851	Programming 960 hours	8867 CS Discoveries 120 hours	2536 AP CS Principles 120 hours	2535 AP Computer Science A 120 hours	8160 Advanced Programming 120 hours	8871 Python 120 hours	8861 PLTW Cybersecurity 8256 Cybersecurity Basics 120 hours		
	Intro to CS 480 hours	8867 CS Discoveries 120 hours	2536 AP CS Principles 120 hours	2535 AP Computer Science A 120 hours	STEM Capstone OCAS 8705 120 hours				

Pathway: Engineering and Technology

State Program		1	2	3	4	CIP and SOC Suggestions
SC0026004 Robotics Engineering Program	OCAS 9878 Robotics 480 hours	8833 Robotics Engineering 120 hours	8160 Advanced Programming 120 hours	8866 Advanced Robotics Engineering 120 hours	8705 STEM Capstone 8721 STEM Internship 120 hours	CIP: 15.0405 Robotics Technology/Technician SOC: 17-3024.01 – Robotics Technicians

Pathway: Engineering and Technology	CareerTech Approved College Prep Mathematics and Science Courses
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OCAS	Math	OCAS	Math	OCAS	Science	OCAS	Science
4830	Advanced Studies in Math I	4760	AP Statistics	5055	AP Chemistry	5051	Chemistry I
4831	Advanced Studies in Math II	4612	Calculus	5121	AP Environmental	5211	Physics I
4412	Algebra II	4520	Geometry	5213	AP Physics 1: Algebra-Based	5212	Physics II
4413	Algebra III	4611	Pre-Calculus (60 or 120 hours)	5214	AP Physics 2: Algebra-Based		
4615	AP Calculus AB	4614	AP Pre-Calculus	5216	AP Physics C: Mechanics		
4616	AP Calculus BC	4740	Statistics & Probability	5217	AP Physics C: Electricity and Magnetism		
		4750	Trigonometry (60 hours)				

Pathway: Engineering and Technology									
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State Program	Pre-Engineering - Adv	1	2	3	4	5	6	7	8	
SC0016001 Pre-Engineering Program 480 hours OCAS 9862	Pre-Engineering - Adv 1440 hours	8878 Engineering Essentials 120 hours	8709 PLTW IED 120 hours	8710 PLTW POE 120 hours	PLTW - Engineering Specialty Course 120 hours	PLTW - Engineering Specialty Course 120 hours	8716 PLTW Capstone 120 hours	College Prep Math Year 1-3 360 hours	College Prep Lab Science Year 1-3 360 hours	
	Pre-Engineering - Adv 960 hours	8878 Engineering Essentials 120 hours	8709 PLTW IED 120 hours	8710 PLTW POE 120 hours	8716 PLTW Capstone 120 hours	College Prep Math Year 1-2 240 hours	College Prep Lab Science Year 1-2 240 hours	CIP and SOC Suggestions		
	Pre-Engineering - Adv 480 hours	8878 Engineering Essentials 120 hours	8709 PLTW IED 120 hours	8710 PLTW POE 120 hours	8716 PLTW Capstone 120 hours	CIP: 14.0101 - Engineering, General SOC: 17-2199.00 - Engineers, All Others Or CIP: 14.0102 Pre-Engineering SOC: 99-9999 No Match				
SC0026010 Pre-Engineering Program – Adv 960 hours OCAS 9862 & 9871	PLTW Engineering Specialty Courses	8711 Digital Electronics 120 hours	8712 Computer Integrated Manufacturing 120 hours		8713 Civil Engineering & Architecture 120 hours		8854 Environmental Sustainability 120 hours		8715 Aerospace Engineering 120 hours	
SC0026014 Pre-Engineering Program – Advanced 1440 hours OCAS 9862, 9871, 9853	SREB Integrated Production Technology 480 hours	8862 Advanced Technology for Design and Production 120 hours		8863 Systems of Advanced Technology hours 120		8864 Mechatronic Systems for Advanced Production 120 hours		8865 Design for the Production of Advanced Products 120 hours		CIP: 15.0001 - Applied Engineering Technologies/Technicians SOC: 17-3024 Electro-Mechanical and Mechatronics Technologists and Technicians
	SREB Innovations in Science & Technology 480 hours	8855 Nature of Science and Technology 120 hours		8856 Core Applications of Science and Technology 120 hours		8857 Impacts of Science & Technology 120 hours		8858 Creativity & Innovations 120 hours		CIP: 14.0103 - Applied Engineering SOC: 17-2199 Engineers, All Other
	Applied Engineer 480 hours	8879 Mechanical Design Engineering 120 hours		8882 Advanced Mechanical Design Engineering 120 hours		8826 Advanced Design Applications 120 hours		8705 STEM Capstone 8721 STEM Internship 8990 Work-Based Learning I - STEM 120 hours		CIP: 14.0103 - Applied Engineering SOC: 17-2199 Engineers, All Other

Pathway: Science and Mathematics

CareerTech Approved College Prep Mathematics and Science Courses

OCAS	Math	OCAS	Math	OCAS	Science	OCAS	Science
4830	Advanced Studies in Math I	4760	AP Statistics	5333	Anatomy & Physiology (120 hrs.)	5336	Microbiology
4831	Advanced Studies in Math II	4612	Calculus	5035	AP Biology		
4412	Algebra II	4520	Geometry	5055	AP Chemistry		
4413	Algebra III	4611	Pre-Calculus (60 or 120 hours)	5121	AP Environmental		
4615	AP Calculus AB	4614	AP Pre-Calculus	5051	Chemistry I		
4616	AP Calculus BC	4740	Statistics & Probability	5333	Physiology (60) or Anatomy (60)		
		4750	Trigonometry (60 hours)				

State Program		1	2	3	4	5	6	7
SC0026000 Biomedical Science and Medicine 480 hours OCAS 9852	Biomedical Science 1440 hours	8706 PLTW Principles of Bio Science 120 hours	8707 PLTW Human Body Systems 120 hours	8708 PLTW Medical Interventions 120 hours	8719 PLTW Biomedical Innovation 120 hours	8716 PLTW Capstone	College Prep Math Years 1-3 360 hours	College Prep Lab Science Year 1-3 360 hours
SC0026007 Biomedical Science and Medicine Advanced 960 hours OCAS 9852 & 9870	Biomedical Science 960 hours	8706 PLTW Principles of Bio Science 120 hours	8707 PLTW Human Body Systems 120 hours	8708 PLTW Medical Interventions 120 hours	8719 PLTW Biomedical Innovation 120 hours	8716 PLTW Capstone	College Prep Math Years 1- 2 240 hours	College Prep Lab Science Year 1-2 240 hours
SC0026012 Biomedical Science and Medicine Academy 1440 hours OCAS 9852, 9870, 9854	Biomedical Science 480 hours	8706 PLTW Principles of Bio Science 120 hours	8707 PLTW Human Body Systems 120 hours	8708 PLTW Medical Interventions 120 hours	8719 PLTW Biomedical Innovation 120 hours	CIP and SOC Suggestions CIP: 26.0102 - Biomedical Sciences, General SOC: 19-1042 Medical Scientists, Except Epidemiologist SOC: 19-4021 Biological Technicians Or CIP: 15.0401 Biomedical Technology/Technician SOC: 17-3029.00 - Engineer Tech, Except Drafters, All Other Or CIP: 26.9999 - Biological and Biomedical Sciences, Other SOC: 19-1029 - Biological Scientists, All Other		

Pathway: Science and Mathematics

State Program		1	2	3	4	5	6	7	8
SC0026008 Biotechnology Program 480 hours OCAS 9872	Biotechnology 960 hours	8701 Survey of Biotech 120 hours	8702 Biotech I 120 hours	8703 Biotech II 120 hours	8704 Adv Biotech I 120 hours	8717 Advanced Biotech II 120 hours	5035 AP Biology 5055 AP Chemistry 120 hours	5121 AP Environmental Science 120 hours	8705 STEM Capstone 120 hours
SC0026001 Biotechnology Program - Advanced 960 OCAS 9872 & 9873	Biotechnology 480 hours	8701 Survey of Biotech 120 hours	8702 Biotech I 120 hours	8703 Biotech II 120 hours	8705 STEM Capstone 120 hours	CIP and SOC Suggestions CIP: 41.0101 Biology/Biotechnology Technology/Technician SOC: 19-4021 Biological Technicians			