

Course Planning 101



Graduation Requirements: minimum of 23 Credits

Language Arts	Mathematics	Science	Social Studies	Electives
4 years	4 years	4 years	3 years	4 required + 4 choice
<ul style="list-style-type: none">● 9th● 10th● 11th● 12th	Minimum of: <ul style="list-style-type: none">● Algebra● Geometry● Adv. Alg.● + 4th year choice	Minimum of: <ul style="list-style-type: none">● Biology● Chemistry● Physics● + 4th year choice	Required: <ul style="list-style-type: none">● World History (10th)● US History● Gov & Econ	Required: <ul style="list-style-type: none">● Health/PE● Foreign LangOR Fine ArtsOR CTAE Choice: 4 other electives

[Credit Check form](#) shared with students.

Choosing the right level

College Prep (CP)	Honors	Gifted	Advanced Placement (AP)	Dual Enrollment
Meets grad requirements/ college entrance requirements	Similar to CP, but moves at a faster pace and requires more work outside of class time.	Similar to Honors but requires testing placement for this level.	College-level course taken in high school/ may be able to receive college credit. Classes move at a very quick pace and requires much work outside of class time.	College course taken through a college/ university where you earn high school and college credit at the same time.

If a current class is enjoyable and easy for you, AND you are earning around an 85% or higher without too much stress/hard work, you should consider moving up to the next level.

If you are in an Advanced course (Hon, Gifted, AP) and struggling to keep up (earning an 80% or lower), you should consider moving down a level.

GPA: What is it?

GPA = Grade Point Average

- ❖ To calculate a GPA you convert the numerical grade to a 4 point grade scale, add up all the courses that your student has taken and then divide that number by the total number of classes taken
- ❖ If you have a student who is taking an AP course and they earn over 100%, they can earn a 5.0
 - Example: AP Chem 105 = 5.0

Example:

LA	95% = 4.0
Ceramics	92% = 4.0
World Hist	88% = 3.0
Health	66% = 0
Chem	80% = 3.0
Graphic Design	70% = 1.0
Alg II	75% = 2.0

All Total = 17, divided by 7

GPA for this semester would be = 2.42

Getting back on track

- ❖ If a student fails a course that is required for graduation, the course **MUST** be made up.
 - Credit Recovery: This option is for students who fail with a 50 - 69%
 - Shorter and cheaper
 - Summer School: This option is for students who failed a course with a grade below 50%
 - \$250 per course, can take 2 each summer
 - 2 free classes for re-attempt at failed class
 - Approximately 4 - 5 weeks
 - Can be done in-person at various GCPs schools or online through GOC

Maxwell High School of Technology

[Maxwell](#)
[Program](#)
[Information](#)

- January 10, 2024: Application opens
- February 20, 2024: Open House 5:00-7:00pm
- February 23, 2024: The Maxwell Program Application will temporarily close in preparation for the lottery in early March. The application will then reopen for programs with availability.
- March 18, 2024: Maxwell Program Application opens for late registration.
- July 12, 2024: Maxwell Program Application closes for the 2024-2025 school year. No new applications will be accepted after this date.

STEM Pathways



Paul Duke STEM High School – STEM/STEAM Pathways



The table below shows the 9 Career and Technical Education Pathways offered in our three STEM Programs. In addition to the pathway information, the table demonstrates the senior internship, industry certifications, and post-graduation college and career opportunities for students upon completion of a pathway.

PDS Program	Pathway	Course 1	Course 2	Course 3	Senior Internship Opportunities	Certification and Credentials Available	Immediate Job Opportunities with Certification	Post-Secondary Education Opportunities	Future Career Opportunities
Engineering & Robotics	Engineering and Technology	Foundations of Engineering and Technology	Engineering Concepts	Engineering Applications	PDS MakerSpace, Gwinnett Tech, Engineering Drafting Firms	AutoDesk AutoCAD/Inventor Certified User	Engineering Technician and Drafting Assistant	Architecture, Engineering, Bio Medical	AutoCAD Technician, Architecture, Engineering
	Mechatronics	Introduction to Mechatronics	AC Theory, Electric Motors, and Hydraulic Systems	Semiconductors, Mechanical Systems, Pump and Piping Systems	PDS MakerSpace, EMA Inc., Manner Manufacturing.	Manufacturing - Precision Mechatronics - NOCTI-Level 1	Electrical Technician, Engineering Apprentice, Computer Controlled Machine Tool Operator, & Electro Mechanical Apprentice	4 Year - Engineering (Civil, Mechanical, Electrical, & Industrial) 2 Year – Automated Manufacturing and Engineering Technology	Mechatronics Engineer, Electrical Engineer, and Industrial Engineer
Communication, Art, & Design	Graphic Design	Intro to Graphics and Design	Graphic Design and Production	Advanced Graphic Design	PDS Print Shop	Adobe Illustrator Adobe InDesign Adobe Photoshop	Graphic Designer	Graphic Design, Creative Media, and Visual Arts	Multimedia Artists & Animators, Commercial & Industry Designers
	Audio, Visual, Television, & Film (AVTF)	AVTF 1	AVTF 2	AVTF 3	PDS-TV - Senior Producers	Adobe Premiere Pro Adobe AfterEffects	Video Production/Content Creation, Sound and Video Technicians, Video Editors	Many Opportunities Assoc Degree (GA Film Academy) Bachelor/Masters in Film/Journalism/New Media	Directors/Producers/Content Creators (social media)/Journalists
	Marketing and Management	Marketing Principles	Marketing and Entrepreneurship	Marketing Management	Assistant for ordering and managing store	Gold Certification from DECA	Retail experience, Direct sales	Marketing, Business, Advertising	Business Ownership, Marketing specialist, advertiser
Digital & Innovative Technology	Computer Science	Introduction to Software Technology and Introduction to Hardware (2 credits) in 1 year AND Computer Science Principles in 2nd year OR AP Computer Science Principles with embedded Introduction to Software Technology (2 credits & grades in 1 period)		AP Computer Science A	Internships, VMware IT Academy	Microsoft Technology Associate Software Development Fundamentals	Entry level Java Developer, Customer Support, App Development	Computer Science Computational Media	Software Developer, IT Analyst, System Engineer, Network Architect
	Cybersecurity	Introduction to Software Technology and Introduction to Hardware	Introduction to Cybersecurity	Advanced Cybersecurity	Internships, Mercer FBI Cybersecurity Program, GCPS	Security+ Fortinet Certification	Security Analyst	IT, Computer Science, Cybersecurity	Security Expert
	Game Design	Introduction to Software Technology and Introduction to Hardware (2 credits) in 1 year AND Computer Science Principles in 2nd year -OR- AP Computer Science Principles with embedded Introduction to Software Technology (2 credits & grades in 1 period)		Game Design	Internships	Unity Software Developer	Game Developer	Computer Science, Animation, Game Design	Game Developer, Software Developer, Animation
	Web Development	Introduction to Software Technology and Introduction to Hardware (2 credits) in 1 year AND Computer Science Principles in 2nd year -OR- AP Computer Science Principles with embedded Introduction to Software Technology (2 credits & grades in 1 period)		Web Development	Webmaster for local organizations, School Website Intern, Internship	CIW Site Development Associate	Entry level Web Developer, Customer Support	Computer Science	Web Developer, Software Development

Electives

STEM Pathways PLUS...



Paul Duke STEM High School - Academic Pathways



The table below displays example academic pathways for each content area. A student can be on the standard pathway in one subject and on a more advanced pathway in another subject. While there is room for flexibility and deviation, the table serves as a guide for the most common sequences students complete during their time at Paul Duke STEM High School. Please contact your student's counselor if you have specific questions.

Subject/Content Area	Academic Pathway	9 th Grade	10 th Grade	11 th Grade	12 th Grade
Language Arts (4 years of courses required for graduation)	Standard	9 th Grade Literature & Composition Paired with Biology	10 th Grade Literature	11 th Grade American Literature	12 th Grade World Literature <u>OR</u> Dual Enrollment
	Advanced/AP Pathway	9 th Grade Literature & Composition	AP Seminar	AP Language & Composition	AP Literature & Composition <u>OR</u> Dual Enrollment
Math (4 years of courses required for graduation)	Standard (Students who took 8 th Grade Math)	Algebra: Concepts & Connections	Geometry: Concepts & Connections	Advanced Algebra <u>OR</u> Enhanced Advanced Algebra & AP PreCalculus	PreCalculus <u>OR</u> Advanced Financial Algebra <u>OR</u> Stat Reasoning <u>OR</u> AP Statistics <u>OR</u> Dual Enrollment
	Advanced/AP Pathway (Students who took Enhanced 8 th Grade Math and Algebra: C&C)	Geometry: Concepts & Connections Accelerated Geometry: Concepts & Connections	Adv. Algebra: Concepts and Connections Enhanced Adv. Algebra and AP PreCalculus: Concepts and Connections	PreCalculus <u>OR</u> Enhanced Advanced Algebra & AP PreCalculus AP Calculus AB <u>OR</u> AP Calculus BC	Calculus <u>OR</u> AP Calculus AB <u>OR</u> AP Calculus BC <u>OR</u> Calculus <u>OR</u> Dual Enrollment Georgia Tech Calculus <u>OR</u> Multivariable Calculus <u>OR</u> Dual Enrollment
Science (4 years of courses required for graduation)	Standard	Biology Paired with 9 th Grade Literature & Composition	Chemistry	Physics	4 th Year Science Elective <u>OR</u> AP Science <u>OR</u> Dual Enrollment
	Advanced/AP Pathway	Biology Paired with 9 th Grade Lit. & Composition AND Chemistry (2 Science classes taking 2 periods)	AP Biology <u>OR</u> AP Chemistry	AP Physics 1	AP Science <u>OR</u> Dual Enrollment
Career & Technical Education (4 years of courses recommended for graduation)	Paul Duke STEM offers 9 Career and Technical Education Pathways within our 3 STEM Programs. Please see the reverse side for details	Intro to Software Technology and Intro to Hardware (2 credits) <u>OR</u> AP Computer Science Principles with embedded Introduction to Software Technology (2 credits in 1 period) <i>One of these options is REQUIRED for all Paul Duke STEM 9th grade students.</i>	Students complete a 3-course pathway from the 9 Career and Technical Education Pathways offered in our three STEM Programs. Our goal is that all students complete a 3-course pathway, pass an End of Pathway Assessment, and Senior Internship, which demonstrates a unique technical experience to complement their academic pathway work.		SENIOR EXPERIENCE & EXHIBITION (SEE) Senior Internship <u>OR</u> Work Based Learning <u>OR</u> AP Research All graduates are expected to complete a Senior Experience and Exhibition (SEE) as a component of their CTE Pathway.
Social Studies (3 years of courses required for graduation)	Standard	None Required	World Literature	US History	Economics <u>AND</u> American Government & Civics
	Advanced/AP Pathway	AP Human Geography or None	AP World History	AP US History	AP American Government & Civics <u>AND</u> AP Economics
World Language (students planning to go to college should take two or three years)	Paul Duke STEM offers Spanish and French on-campus and other options via Gwinnett Online Campus.	Paul Duke STEM offers 5 years of French and Spanish on-campus. Students are recommended to take 3-4 years between middle and high school if applying to 4-year university. It is highly recommended that students complete their World Language experience in consecutive years, including the transition from Middle School into High School. Graduating seniors can achieve the Seal of Bilinguality, which recognizes a high level of proficiency in speaking, reading, and writing in one or more languages in addition to English.			
Physical Education	1 year of Health and Physical Education is required.	** Health and Personal Fitness	Optional Electives including Weight Training, Body Sculpting, Team Sports, and Recreational Games		
Fine Arts (Students should complete multiple years of Fine Arts)	Paul Duke STEM offers Visual Arts, Band, Orchestra, Music Tech, Dance, and Theater.	Fine Arts elective choices include courses in Band, Orchestra, Music Technology, Dance, Theater, and Visual Arts. Students are recommended to take 3-4 years if applying to 4-year university. In Georgia, high school students can achieve a Fine Arts Diploma Seal while completing a pathway in dance, music, theater/film, and/or visual art. The diploma seal is a signal that a student is prepared to participate in the creative economy.			

Electives, continued

STEM Pathways PLUS...

World Language (Students planning to go to college should take two or three years)	Paul Duke STEM offers Spanish and French on-campus and other options via Gwinnett Online Campus.	Paul Duke STEM offers 5 years of French and Spanish on-campus. Students are recommended to take 3-4 years between middle and high school if applying to 4-year university. It is highly recommended that students complete their World Language experience in consecutive years, including the transition from Middle School into High School. Graduating seniors can achieve the Seal of Biliteracy, which recognizes a high level of proficiency in speaking, reading, and writing in one or more languages in addition to English.	
Physical Education	1 year of Health and Physical Education is required.	** Health and Personal Fitness	Optional Electives including Weight Training, Body Sculpting, Team Sports, and Recreational Games
Fine Arts (Students should consider multiple years of Fine Arts)	Paul Duke STEM offers Visual Arts, Band, Orchestra, Music Tech, Dance, and Theater.	Fine Arts elective choices include courses in Band, Orchestra, Music Technology, Dance, Theater, and Visual Arts. Students are recommended to take 3-4 years if applying to 4-year university. In Georgia, high school students can achieve a Fine Arts Diploma Seal while completing a pathway in dance, music, theater/film, and/or visual art. The diploma seal is a signal that a student is prepared to participate in the creative economy.	

PLUS...

Some Social Studies electives:

- AP Human Geography -Freshman only
- Psychology & Sociology/ AP Psychology
- *AP Euro (if enough interest) - Seniors only (and possibly Juniors)