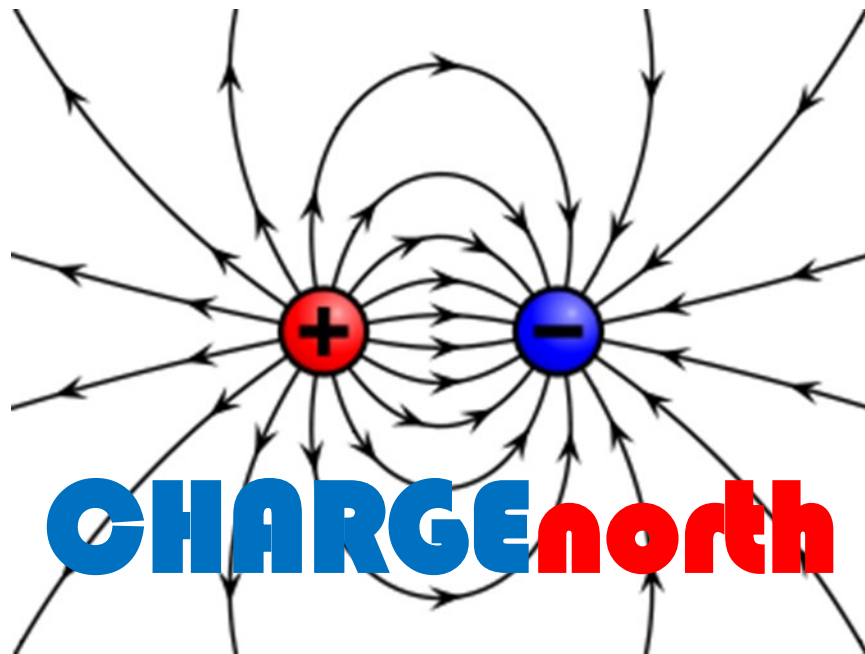
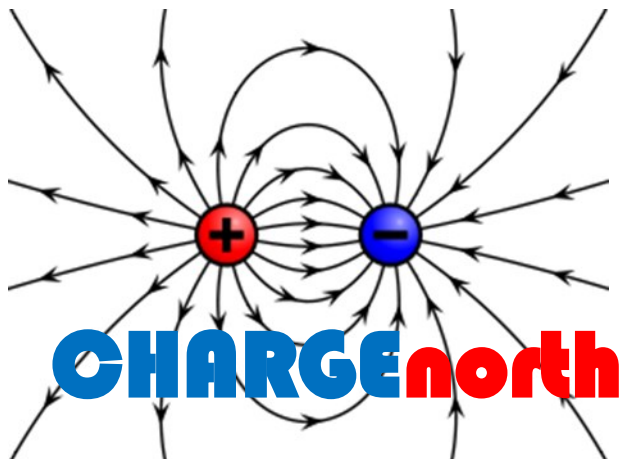


# North Gwinnett High School STEM Pathway



**Connected Humanities And Research  
Geared for Engineering**

# North Gwinnett High School STEM Pathway



**A new STEM & Humanities  
accelerated cohort program  
beginning in fall 2018... You  
won't want to miss out!!**

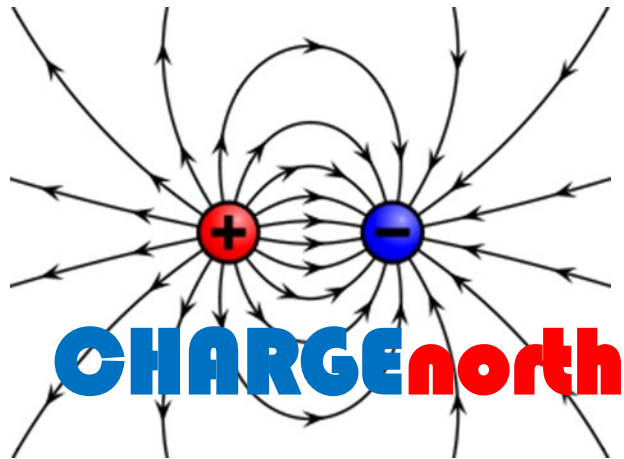
## What is CHARGEnorth?

CHARGEnorth (**C**onnecte**H**umanities **A**nd **R**esearch **G**eared for **E**ngineering) is an innovative new program designed for high level students seeking a unique and challenging high school STEM experience. Students will apply for the program as incoming 9<sup>th</sup> graders and stay together as a four-year cohort. This Engineering focused program will combine rigorous Honors/Gifted/AP Science coursework with an embedded Engineering curriculum. Also included is an integrated Humanities approach combining Honors/Gifted/AP Language Arts and AP Social Studies courses, allowing students to earn more than the typical number of credits each year. Students in the program will have access to a state-of-the-art Maker Space and CAD lab and will be engaged in independent research projects spanning the four-year program and culminating in an AP Capstone project and Internship during senior year. CHARGEnorth will challenge students to take their high school experience to a whole new level of inquiry and exploration!

## Why choose CHARGEnorth?

CHARGEnorth offers students an opportunity to pursue high-level STEM coursework and projects in a small-school environment while still enjoying the benefits offered by attending a large, traditional high school – sports, clubs and activities, fine arts programs, etc. The academic environment will be challenging, engaging, and hands-on while maintaining a focus on real-world application of knowledge and skills learned in the program. CHARGEnorth is the right program for students who are self-motivated, creative thinkers willing to work cooperatively in a flexible, yet rigorous, classroom environment to solve real-world problems. Most importantly, students in the program need to be passionate about STEM related topics, eager to engage in the Engineering curriculum, curious to explore the STEM/Humanities connections, and excited to pursue projects outside the scope of a traditional classroom! Whether or not students decide to pursue Engineering at the post-secondary and/or career level, the skills gained through the program will give them an incredible foundation for college, career, and life-long success!

# North Gwinnett High School STEM Pathway



**A Deeper look  
Into the Three Pillars  
of the Program...**

## RESEARCH

One of the foundational pieces of the program will be inquiry-based research woven into all four years of study. Students will have the opportunity to pursue independent research projects based on concepts learned in their program coursework – projects that could be new each year or one long project lasting all four years! Students will have access to state of the art technology and equipment during open lab time before and after school as well as during their lunch period. A research course credit will be earned each year, culminating in an AP Capstone project.

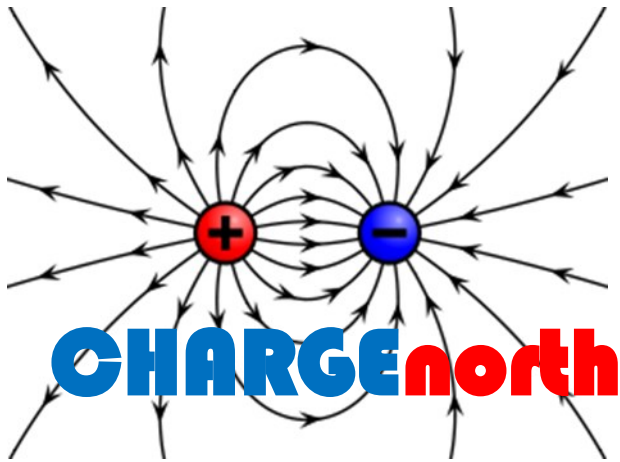
## STEM: Science & Engineering

The STEM component of the program will weave together core Science, Engineering, and Electronics classes in a block format, allowing students to earn 8-9 credits over the course of three years as well as an internship opportunity in the 4<sup>th</sup> year. This integrated approach will have the chemistry and physics teachers working alongside the engineering teachers in a way that will allow students in the program to see the connections between the subjects and give them the opportunity to dive much deeper into the concepts than they would in a traditional classroom. Access to top-notch equipment will enhance the experience and will offer a more hands-on, real-world focus.

## HUMANITIES: Language Arts & Social Studies

One of the most unique pieces of this program is the integrated Humanities approach, combining high-level Language Arts classes with AP Social Studies classes in a block format each year. With the teachers working together to present the material for both subjects, students will not only see the connections that exist between the two subjects, but will also be able to apply a STEM lens to the material they are learning. This will allow them see how their STEM knowledge and skills can positively effect change on their community and the world around them.

# North Gwinnett High School STEM Pathway



## Proposed Four-Year Course Sequence

	9th Grade Courses	10th Grade Courses	11th Grade Courses	12th Grade Courses
<i>Before School</i>	Open Lab/Research I	Open Lab/Research II	Open Lab/Research IV	Open Lab/AP Capstone
*see below	Humanities - 9th Honors/Gifted LA & AP Human Geography	Humanities - 10th Honors/Gifted LA & AP World History	Humanities - AP Language Arts & AP US History	Language Arts & Political Systems/ Economics (AP or Dual Enrollment)
*see below	STEM - Chemistry & Foundations of Engineering	STEM - AP Physics I & Concepts of Engineering & Applications of Engineering	STEM - AP Physics C & Found of Electronics & Advanced AC/DC Cir- cuits	Senior Science - AP Biology, AP Chemistry, AP Environmental Science, or AP Computer Science
**see below	Math - Accelerated Geometry or higher	Math - Accelerated Precalculus or higher	Math - AP Calculus or higher	Math - Georgia Tech, Multi Variable or higher
***see below	Lunch Open Lab/Research I	Lunch Open Lab/Research II	Lunch Open Lab/Research IV	Lunch Open Lab/AP Capstone
****see below	Elective	Elective	Elective	Elective
	Elective	Elective	Elective	Internship
<i>After School</i>	Open Lab/Research I	Open Lab/Research II	Open Lab/Research IV	Internship

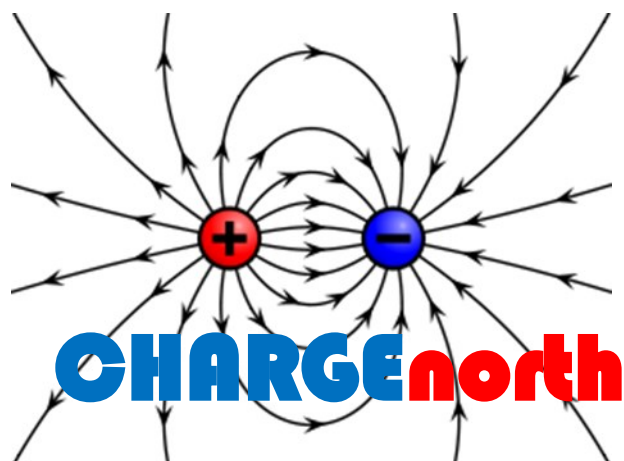
\*Humanities & STEM classes offered in block format in 9th - 11th grades to allow for collaborative work and an opportunity to earn multiple credits through embedded coursework. In 12th grade, students will be able to choose the setting that best suits them - AP, Dual Enrollment, or online.

\*\*Math classes will be taken in the regular setting to allow for multiple advanced pathways.

\*\*\*During lunch and before & after school, students will have access to the Engineering lab, where they will be able to work on independent research projects (for credit), ending with an AP Capstone project in 12th grade.

\*\*\*\*Students will be able to take two elective classes each year in 9th - 11th grades to accommodate interests in Fine Arts, Foreign Language, and other CTAE areas. In 12th grade, students will participate in an Internship program that will count for one (or both) of their electives.

# North Gwinnett High School STEM Pathway



## Frequently Asked Questions

### What are the prerequisites for the program?

The only prerequisite is that students must be enrolled in Accelerated Algebra or higher in 8<sup>th</sup> grade. It is helpful for students to have taken Biology in 8<sup>th</sup> grade, but that is not a requirement.

### Will I be with the same students all day?

Students in the pathway will be together with their cohort for a 3-period block which includes STEM (Science & Engineering) and Humanities (Language Arts & Social Studies). Math and elective classes will be taken with peers across campus in traditional classroom settings.

### What if I have not taken the Biology class?

Students who have not earned the Biology credit in 8<sup>th</sup> grade will have three options:

- Take Honors/Gifted/AP Biology as an elective in 10<sup>th</sup>, 11<sup>th</sup>, or 12<sup>th</sup> grade
- Take AP Biology as their 4<sup>th</sup> Science during senior year
- Take Honors/Gifted/AP Biology on their own time (summer school or online).

### Will I be able to take other classes I am interested in?

Yes! Students will have two open elective periods in 9<sup>th</sup> – 11<sup>th</sup> grades and one period in 12<sup>th</sup> grade for elective classes. This will allow students to study a foreign language and participate in North's outstanding Fine Arts and CTAE programs.

### The pathway sounds really interesting but also really intense! What kind of support will be available to me?

Students will get to know their teachers in the program really well and will be provided with strong academic support. There will also be a full-time counselor dedicated to the program to monitor student progress, meet with students and parents annually, and deliver a customized wellness curriculum focused on time management, mindfulness, balanced living, etc.

# North Gwinnett High School STEM Pathway

## Connected Humanities And Research Geared for Engineering

### Eligibility and Admissions Requirements

#### ELIGIBILITY REQUIREMENTS:

Eighth grade students must meet the eligibility requirements listed below in order to be eligible for the lottery process.

1. Resident of North Gwinnett Cluster (if moving into the North Gwinnett Cluster, residency must be established prior to enrollment if selected)
2. 8<sup>th</sup> grade student enrolled in Accelerated Algebra or higher
3. Must complete and submit the online interest form and essay by the deadline
4. Participate in a performance-based team activity

Students meeting these criteria will be entered into a lottery for selection.

#### APPLICATION PROCESS:

North Gwinnett High School personnel will share information about CHARGE<sup>north</sup> during visits to North Gwinnett Middle School in November. Following that, letters will be mailed to all 8th grade students currently taking Accelerated Algebra or higher. Later in November, parents and students will be invited to attend an informational session to learn more about this pathway. Interested students will complete an interest form online, which will include a brief essay ([http://tinyurl.com/CHARGE<sup>north</sup>](http://tinyurl.com/CHARGEnorth)). Students will then participate in a performance-based team activity in January. Students who perform successfully in this activity will be entered into the lottery for selection.

#### LOTTERY PROCESS:

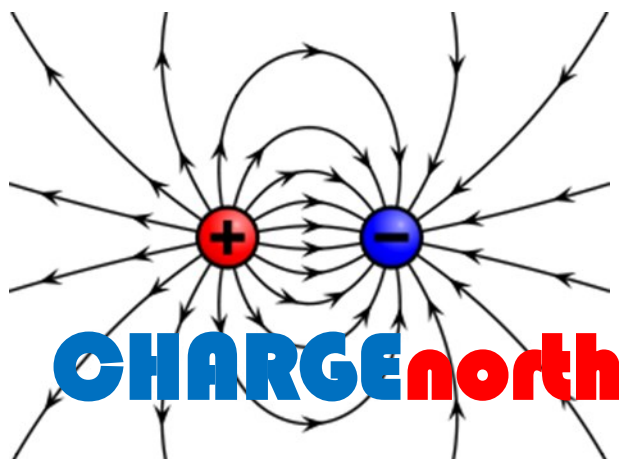
Students who meet the above eligibility requirements, have completed the online interest form by January 12, and have successfully participated in the performance-based team activity on January 27 will be entered into a lottery. Approximately 80 rising 9th graders per year will be chosen to participate in the STEM Pathway. A waitlist will be created for all remaining students. Students who enroll at NGHS after the deadline and are interested in the pathway will have the opportunity to complete an online interest form and participate in a performance-based activity prior to the start of the school year. These students will be added to the waitlist.

# North Gwinnett High School STEM Pathway

## **MOVE-INS/HOMESCHOOL/**

### **PRIVATE:**

Students who join the North Gwinnett Cluster after the admission deadline will still be given an opportunity to apply for the program. Parents should notify Dr. Jill Chalk of their interest. Students will be required to provide a copy of their middle school course history, complete the online interest form and participate in a performance-based activity. If students meet the eligibility requirements, they will be waitlisted along with current North Gwinnett Middle students.



## **NOTIFICATION OF ADMISSION:**

Admission decisions will be mailed home no later than February 2<sup>nd</sup> to all students who submitted an interest form and completed the performance-based team activity. Students will be notified with a response of accepted or waitlisted. Once decisions have been mailed, all students will be invited to attend an informational question and answer session on February 19<sup>th</sup> during Rising 9<sup>th</sup> Grade Night prior to committing to the four-year cohort. Students and parents will be required to sign a commitment form by March 30<sup>th</sup> to declare their intent to participate in the program. Based on the number of commitments, waitlisted students may be contacted and offered a spot in the program.

## **IMPORTANT DATES:**

November	North Gwinnett High School staff members will visit NGMS Acc Algebra and Acc Geometry classes
November 11	Information will be mailed home
November 27	Parent Information Meeting 6:30pm @ NGHS Theater
November 28	Interest form is available online
January 12	Interest form deadline
January 27	Performance-based team activity
February 2	Admission decisions will be mailed home based on lottery results
February 19	STEM meeting at NGHS
March 30	Commitment deadline
June/July	STEM summer program

**Questions?** Contact: [Kristin\\_Gresham@gwinnett.k12.ga.us](mailto:Kristin_Gresham@gwinnett.k12.ga.us) (Counselor) or [Jill\\_Chalk@gwinnett.k12.ga.us](mailto:Jill_Chalk@gwinnett.k12.ga.us)

**GREAT**  
**BY**  
**CHOICE**

**-Jim Collins-**



**North Gwinnett High School inspires and empowers students  
to excel in learning, leadership, and life.**