

The NC Aerospace Initiative connects a variety of enterprises in the aerospace sector that are working to promote the industry's growth. The NCAI is a coalition of aerospace interests that have come together to align these enterprises and to act as a clearinghouse for all things aerospace. This resource guide is a product of the NCAI initiative.



High School Programs – STEM Science, Technology, Engineering, Math Aerospace Programs

STEM Education is an economic imperative to:

- Transform education
- Build world class workforce
- Align with emerging industries
- Ensure NC economic prosperity

NC New Schools STEM and Thematic Schools

North Carolina New Schools, in partnership with others in business, government, philanthropy and education, is building a new vision of teaching and learning to prepare students for work and life in this century. A globally competitive, knowledge-based economy is a fact of life for North Carolina's high school students - now and for the foreseeable future - and science, technology, engineering and mathematics (STEM) are critical drivers in that economy.

Through intensive, customized professional development for educators and enhanced STEM skills development for students, outcomes are explicit connections to higher education and to business and industry.

Davie County High School

1200 Salisbury Road
Mocksville, NC 27028

Contact:

Jinda Haynes

Principal

336-751-5905

haynesj@davie.k12.nc.us

<https://sites.google.com/a/davie.k12.nc.us/d>

[hs_stemcenter/](#)

The Davie High STEM Center curriculum emphasizes connections within and between the fields of science, technology,

Surry Central High School

716 S. Main Street

Dobson, NC 27017

(Aerospace, Advanced Manufacturing and Security)

Contact:

Celia Hodges

Principal

336/386-8842

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<https://surry.haikulearning.com/brinkleyp/>

[courseofferingsandcareerclusters/cms_p](#)

[age/view/1617839](#)

engineering, math and all humanities classes including the arts; integrates technology in meaningful, powerful ways; introduces and engages students in the Design Process; fosters college readiness and emphasizes leadership skills and offers unique enrichment experiences.

Course offerings include Advanced Placement, Honors, College Preparatory, Career/Technical Education, Dual Enrollment/Dual Credit, the Arts, and Exceptional Children's Programs. Dual enrollment/Dual Credit is available through Surry Community College on a limited basis.

STEM Early College at North Carolina A&T University

Smith Hall - Room 004
402 Laurel Street
Greensboro, NC 27411

Contact:

Mr. Stacey Alston
Principal
336-370-8580

alstons2@qcsnc.com

http://stemec.qcsnc.com/pages/STEM_Early_College_at_NC_A_T

The STEM Early College at NC A&T offers a fast-paced curriculum that integrates knowledge in four areas: science, technology, engineering and mathematics. In addition to required high school courses, the STEM curriculum incorporates courses such as robotics and scientific visualization. Juniors and seniors will take college courses and focus on one of three STEM pathways: biomedical sciences, renewable energy and engineering. Students will graduate with a high school diploma and two years of college credit from NC A&T.

Yadkin Valley Career Academy

2065 E Holly Grove Road
Lexington, NC 27292

Contact:

James Fitzgerald
CEO/Principal
336-242-5820

[jfitzgerald1@davidson.k12.nc.us](mailto:jfitzgerald1@ davidson.k12.nc.us)

www.davidson.k12.nc.us/education/components/scrapbook/default.php?sectionid=72704&

The academy curriculum is designed to increase the rigor and relevance of STEM-related core academic content through integration with industry-relevant technical applications and technologies. The initial career paths of the academy will be global logistics, advanced technologies/ manufacturing, and health sciences/medical informatics.

NC STEM Learning Network Member Schools/School Systems

The NC STEM Learning Network is a product of North Carolina's K-12 Statewide STEM Education Strategic Plan to harness innovative ways of teaching and learning. Network members are able to connect with national and state organizations, businesses, foundations and other assets to evaluate, pilot and adopt innovative practices that fit the needs of their school and/or district. NC STEM Learning Network is creating various innovative statewide projects to help communities succeed. For more information visit the website at www.ncstem.org.

Member School System

Surry County School System

209 N. Crutchfield Street
Dobson, NC 27017
336-386-8211801

Contact:

Jill Reinhardt
336-386-8211

reinhardtj@surry.k12.nc.us
https://surry.haikulearning.com/brinkleyp/careercollegepromiseofferings/prva/cms_page/view?first=1

In cooperation with Surry Community College, Surry County Schools offers courses for high school students that lead to certificates that are aligned with high school career clusters.

Courses to receive a certificate in Electronics Engineering Technology:

- ELC 125 - Diagrams & Schematics
- ELC 131 - DC/AC Circuit Analysis
- ELN 131 - Semiconductor Appl.
- ELC 133 - Digital Electronics
- ISC 112 - Industrial Safety

Member School

Simon G Atkins Academic Technology High School

Winston Salem Forsyth County School District

3605 Old Greensboro Road,
Winston-Salem, NC 27101

Contact:

Bruce Sherman
336-727-2292

BSherman@wsfcs.k12.nc.us
www.wsfcs.k12.nc.us/Domain/6174

The technical curriculum at Atkins HS includes engineering courses such as:

- Introduction to Engineering Design
- Principles of Engineering
- Digital Electronics
- Civil Engineering
- Architecture

Some of these classes are advanced placement (AP) weighted; when students take the end of course exam and pass the course and exam with a certain grade, college credit may be earned while still in high school.

Project Lead the Way (PLTW) National STEM Program

PLTW, a rigorous and relevant STEM curriculum specially developed for elementary, middle and secondary school students, is a national STEM program that seeks to create dynamic partnerships with our nation's schools to prepare an increasingly diverse group of students to be successful in engineering programs and the biomedical sciences. Through an engaging, hands-on curriculum, PLTW encourages the development of problem-solving skills, critical thinking, creative and innovative reasoning and a love of learning.

PLTW prepares students to be innovative and productive leaders in Science, Technology, Engineering and Mathematics (STEM) and to make meaningful, contributions to our world.

Asheboro High School

Asheboro City Schools
1221 S. Park Street,
Asheboro, NC 27203

Contact:

Joanna Barnes
336-625-5104

jbarnes@asheboro.k12.nc.us
<https://sites.google.com/a/asheboro.k12.nc.us/cte/science-technology-engineering-and-math>

Course samples include: Drafting I, Robotics I & II, Intro/Principles of Engineering, Technology and Design.

North Surry High School

Surry County Schools
2440 West Pine Street,
Mount Airy, NC 27030

Contact:

Jill Reinhardt
336-386-8211

reinhardtj@surry.k12.nc.us
https://surry.haikulearning.com/brinkleyp/courseofferingsandcareerclusters/cms_page/view/1617839

Course samples include: Intro/Principles of Engineering and Design, Project Management, Principles of Technology

Career and Technical Education Center

Alamance-Burlington School System
2550 Buckingham Road,
Burlington, NC 27217

Contact:

Robin Bowers
336-570-6060

robin_bowers@abss.k12.nc.us
<http://abss.schoolwires.net/Page/1990>

Course samples include: Scientific Visualization I, Intro to Engineering Design, Computer Programming II, SAS Computer Programming I

Simon G Atkins Academic Technology High School

Winston Salem Forsyth County Schools
3605 Old Greensboro Road,
Winston-Salem, NC 27101

Contact:

Bruce Sherman
336-727-2292

BSherman@wsfcs.k12.nc.us
www.wsfcs.k12.nc.us/Domain/6174

Course samples include: Intro/Principles of Engineering and Design, Digital Electronics, Civil Engineering and Architecture. Some AP weighted and may earn college credit.

East Surry High School

Surry County Schools
801 West Main St,
Pilot Mountain, NC 27041

Contact:

Jill Reinhardt
336-386-8211

reinhardtj@surry.k12.nc.us
https://surry.haikulearning.com/brinkleyp/courseofferingsandcareerclusters/cms_page/view/1617839

Surry Central High School

Surry County Schools
716 South Main Street,
Dobson, NC 27017

Contact:

Jill Reinhardt
336-386-8211

reinhardtj@surry.k12.nc.us
https://surry.haikulearning.com/brinkleyp/courseofferingsandcareerclusters/cms_page/view/1617839

Course samples include: Intro/Principles of Engineering and Design, Project Management, Principles of Technology

James B. Dudley High School

Guilford County Schools
1200 Lincoln Street,
Greensboro, NC 27401

Contact:

Bob Gantt
336-370-2300

gantr@gcsnc.com

http://dudley.gcsnc.com/pages/Dudley_High_Early_College/Engineering_Curriculum

Dudley High offers an Early College Academy with a concentration in engineering.

Course samples include: Engineering, Stats, Chemistry, Computer Science and Engineering Electives

Course samples include: Intro/Principles of Engineering and Design, Project Management, Principles of Technology

West Davidson High School

Davidson County Schools
200 Dragon Drive,
Lexington, NC 27295

Contact:

LeeAnne Tuttle-Thomas
336-249-8182

ltuttle@davidson.k12.nc.us

www.davidson.k12.nc.us/education/components/scrapbook/default.php?sectiondetailid=14987&sc_id=1154375861

Offers the Academy of Pre-Engineering
Course samples include: Intro/Principles of Engineering & Design, Drafting I, Technological Design, Scientific & Technical Visualization

North Davidson High School

Davidson County Schools
7227 Old US Hwy 52,
Lexington, NC 27295

Contact:

LeeAnne Tuttle-Thomas
336-249-8182

ltuttle@davidson.k12.nc.us

www.davidson.k12.nc.us/education/components/scrapbook/default.php?sectiondetailid=14987&sc_id=1154375861

Offers the Academy of Pre-Engineering
Course samples include: Intro/Principles of Engineering & Design, Drafting I, Technological Design, Scientific & Technical Visualization

High Schools with Aerospace Programs

Andrews Aviation Academy

1920 McGuinn Drive
High Point, NC 27265

Contact:

Steve Flippin
Academy Director
336-819-2800

flippis@gcsnc.com

www.aviationtriad.com/careers/educational-opportunities/t-w-andrews-aviation-academy

One of only 50 high school aviation programs in the US for students in grades 9-12. The Academy prepares students for college and providing technical training needed for certification by the FAA.

The Academy offers five tracks: engineering, pilot, airframe and powerplant (A & P) mechanic, avionics technician, and airport management. Students can earn FAA certifications/licenses and graduate with up to 68 college credits. Students can finish the associate degree at GTCC while in high school and the credits can be transferred to the Greensboro campus of Embry-Riddle Aeronautical University or to other colleges and universities, such as N.C. State.

Surry Central High School

Surry County Schools
716 South Main Street,
Dobson, NC 27017

Contact:

Jill Reinhardt
336-386-8211

reinhardtj@surry.k12.nc.us

www.surry.k12.nc.us/sch/programs_detail.asp?service-id=321641670

Dual enrollment/Dual Credit is available through Surry Community College on a limited basis. Course offerings include Advanced Placement, Honors, College Preparatory, Career/Technical Education, Dual Enrollment/Dual Credit, the Arts, and Exceptional Children's Programs.

Surry offers the Technology Engineering and Design program, which is a STEM (Science, Technology, Engineering, and Math) program that uses the arts, engineering, languages, technologies, and sciences to understand, communicate, and design.

The North Carolina Leadership Academy

1080 Old Greensboro Road
Kernersville, NC 27284

Contact:

Dorothy Heath, Principal
336-992-2710

dheath@thencla.org

www.thencla.org

The North Carolina Leadership Academy affiliates with the Civil Air Patrol's mission of youth development & aerospace education. Through their experiences in the CAP Cadet Squadron, middle and high school students develop into responsible citizens and become tomorrow's aerospace leaders. To fulfill its goal of developing young people into responsible citizens and aerospace leaders, the CAP Cadet Squadron is developed around five program elements: Leadership Development, Character Enrichment, Aerospace Education, Physical Fitness and Squadron Activities.

Winston-Salem/Forsyth County Schools

Career Center

910 Highland Court
Winston-Salem, NC 27101

Contact:

Dr. Dennis Moser, Principal
336-727-8181

dmoser@wsfcs.k12.nc.us

www.wsfcs.k12.nc.us/cc

The Career Center serves as an extension of regular high school programs. Students maintain affiliation with their home high schools while completing Career Center courses. The Aviation Technology Program is a 2 year program. Year one: Aviation Math, Physics, Aerodynamics, Drawings, Aviation Publications, Material and Processes, Aircraft Inspection, Weight and Balance, Ground Operations, Pilot ground school. Year two: Aviation Forms and Records, Fluid Lines and Fittings, Hydraulics, Corrosion Control, Structures,

Aircraft Electricity, Avionics, Instrument ground school. Other relevant courses available: Networking Engineering I and II (honors) and Aviation Technology I and II.

Phoenix Academy

The School of Aerospace – Coming Soon
4020 Meeting Way
High Point, NC 27265

Contact:

Kim Norcross
Superintendent
kim@pahp.com
336-869-0079
<http://www.pahp.com>

The School of Aerospace will offer focused, aviation career track programs in addition to traditional university track offerings. The Program will offer a curriculum aimed at preparing students for either advanced education or immediate employment in the Triad's growing aviation industry. In their junior and senior years, academy students will be able to enroll in the certification courses offered at GTCC at no additional cost.
