Hampton City Schools: The Next Generation Of Learning In Hampton Roads

HAMPTON CITY SCHOOLS: THE NEXT GENERATION OF LEARNING IN HAMPTON ROADS

Cautious, careful people, always casting about to preserve their reputation and social standing, never can bring about a reform. Those who are really in earnest must be willing to be anything or nothing in the world's estimation, and publicly and privately, in season and out, avow their sympathy with despised and persecuted ideas and their advocates, and bear the consequences.
– Susan B. Anthony

High school education is changing in the Commonwealth of Virginia. In the fall of 2017, the state Board of Education announced wide-ranging changes to high school graduation requirements – most notably, a reduction in standardized testing, and the adoption of a new "Profile of a Virginia Graduate" that emphasizes the "5 C's": critical thinking, creative thinking, collaboration, communication and citizenship. The changes reflect a growing consensus that "earning a diploma should be about more than passing a prescribed series of courses and tests," and that schools should equip students with a broad array of academic *and* professional skills so that they are "college- and career-ready."[1] "You cannot build an economy for 2050 with a 1950s approach to education," former Gov. Terry McAuliffe asserted in his 2016 State of the Commonwealth address, advocating for many of these changes. "We will put greater emphasis on hands-on learning, internships, early college courses and industry credentials, rather than classroom seat-time."[2]

McAuliffe's proposals and the new graduation standards reflect a growing interest in career and technical education (CTE) in Virginia and elsewhere around the country. Today's CTE programs have largely replaced the older model of "vocational and technical" education, which was often considered relevant only to non-college-bound students or stigmatized as a lesser alternative to traditional coursework. CTE programs now provide skills training for a wide variety of career pathways (including science and technology, health care, business, communications and law), and they may be just as rigorous as any other academic specialty program. They provide hands-on training and workplace experience that are beneficial to all students, regardless of whether they plan to attend college right away, or at all. School divisions in Hampton Roads offer innovative CTE programs in an array of specialized fields. Students in our region regularly earn industry credentials and college credit, or gain real-world work experience with community partners, as part of their high school education.

For Hampton Roads, the challenge is evident. The U.S. Navy, for example, has committed to expanding the current fleet of 299 ships in fiscal year 2019 to 326 ships by FY 2023 and 355 ships by FY 2048.[3] The details of the plan are important in that the Navy has not only decided to build new ships, but also extend the service life of existing ships. To achieve this end, the Navy is also creating a multiyear maintenance plan. The increased maintenance of older ships and construction of new ships could be an economic boon to our region.

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1 Virginia Department of Education, Profile of a Virginia Graduate, www.doe.virginia.gov/instruction/graduation/profile-grad
2 2016 State of the Commonwealth address, https://governor.virginia.gov/newsroom/newsarticle?articleId=13920.
3 Office of the Chief of Naval Operations, United States Navy (2018), "Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2019."

Hampton Roads has natural advantages with an existing shipbuilding and maintenance industrial base, yet, without a sufficient workforce, this future work will go elsewhere. Competition for these contracts will undoubtedly be fierce. As James Geurts, assistant secretary of the Navy for research, development and acquisition, said in June 2018, Hampton Roads must "recreate something new and special because as great as the Navy demands are, quite frankly, I'm going to go where the folks who figure that out the best. ... I think you've got the opportunity, but it's not a given. I think the nation has a need, but there's a lot of folks looking at the need."[4] Without the right workforce, Hampton Roads will not only falter in the competition for these contracts but also will struggle to attract and retain other employers.

The focus of this chapter is the most ambitious initiative in our region yet to integrate career and technical education into the high school learning experience – the Academies of Hampton. **Beginning this fall, all 10th-graders who attend Hampton City Schools will be enrolled in one of 16 college and career academies that are now housed in the city's four high schools.** As stated in the Academies of Hampton master plan, their goal is to "prepare students for postsecondary education and employment in high-demand, high-wage, 21st-century careers. Hampton City Schools' graduates will leave with transferable skills, including the ability to think critically and creatively, collaborate well with others, engage in their community through responsible citizenship, and communicate with a sense of purpose."

We'll introduce you to the Academies of Hampton and discuss how the initiative aims to enhance our regional workforce in close cooperation with many different community partners. We'll also look at the outcomes of other school divisions that have adopted the career academy model.

The Career Academy Approach: How It Evolved

The College & Career Academy Support Network (CCASN), housed at the University of California at Berkeley, defines a career academy as "a type of school-within-a-school or small learning community (SLC) that provides a college-preparatory curriculum with a career related theme."[5] This learning model has existed in one form or another for nearly 50 years, but it has attracted more attention and a growing number of converts within the past decade.

The first career academy was established in 1969 at Philadelphia's Thomas Edison High School, where school leaders were seeking an innovative way to lower the dropout rate in one of the city's poorest communities. They partnered with the Philadelphia Electric Co. to provide students with vocational training that would lead to skilled jobs directly after graduation, and to incorporate aspects of this training within the rest of the general studies curriculum. The academic and vocational sides of the program were not separate, but mutually reinforcing. The model was a success, and it was replicated in several other Philadelphia high schools with different professional emphases in the 1970s and 1980s.

Numerous other schools around the country followed Philadelphia's lead – most notably, the California schools that became part of the state-funded California Partnership Academies network, as well as the Academy of Finance in New York City, which grew into the National Academy Foundation (NAF) that now includes more than 600 academies all over the country. More recently, Ford Next Generation Learning (NGL), an educational initiative of the Ford Motor Co. Fund, has emerged as an influential champion of the career academy approach. Hampton is one of 44 school divisions around the country that has developed or is currently developing career academies within the Ford NGL network.

4 *The Virginian-Pilot*, June 8, 2018, "Navy leader says if Hampton Roads wants to benefit from military expansion it has to step up."

5 David Stern, Charles Dayton and Marilyn Raby, "Career Academies: A Proven Strategy to Prepare High School Students for College and Careers," 4, at: https://casn.berkeley.edu/wp-content/uploads/2017/07/Proven-Strategy-2-25-10.doc. The organization changed its name from the Career Academy Support Network (CASN) to the College & Career Academy Support Network (CCASN) in 2013.

In 2010, CCASN estimated that there were approximately 7,000 career academies in the United States, "enrolling about one million high school students, mainly in grades 10 through 12" – or about 10 percent of all high school students in these grades. Today, this number is likely much higher, thanks to several reinforcing phenomena that have combined to give career academies a major boost within the past several years.

First, the changing attitudes toward career and technical education described earlier have led to some significant institutional changes. The American Vocational Association renamed itself the Association of Career and Technical Education in 1998, a change that both reflected and encouraged a broader understanding of career education at the secondary level. And in 2006, the Perkins Act (which provides federal funds to states for vocational and technical education) was expanded so that its funds were no longer restricted to non-college-preparatory programs – but could also be used to support career academies and other programs for college-bound students. The "college and career academy" label (which is favored by the Academies of Hampton) began to appear more frequently, reinforcing the distinction between the academy approach and traditional vocational training.

In 2008, a landmark study, the MDRC Career Academics Evaluation, captured the attention of the secondary education community by providing powerful statistical evidence in favor of the career academy approach. **After tracking nine career academies and their graduates for 15 years, researcher James J. Kemple found that at-risk students who participated in career academies not only had better attendance and were less likely to drop out than their peers, but also that their postgraduation earnings were significantly higher.[6]** We'll look more closely at the results of this study later in this chapter. Here, we note that it reinforced a growing wave of interest in the career academy model – including in Hampton, where the division introduced its first "school-within-a-school," or "pocket" academies in 2011 (the Aerospace and Information Technology Academy at Hampton High School, the Architecture and Applied Arts Governor's STEM Academy at Kecoughtan High School, the Governor's Health Sciences Academy at Bethel High School and

the Information Design and Engineering Academy at Phoebus High School). Cheryl Carrier, the executive director of Ford NGL, tells us that Kemple's study played a key role in focusing the Ford Motor Co. Fund's longstanding support for innovative approaches in secondary education on the career academy model.

In 2014, the Obama administration established a new Youth CareerConnect program to encourage "America's school districts, institutions of higher education, the workforce investment system, and their partners to integrate rigorous educational standards with work experiences and skills in ways that enhance instruction and deliver real-world learning opportunities for students."[7] Grants totaling $107 million were disbursed to 20 different school systems across the country for the explicit purpose of establishing career academies. Former President Barack Obama himself visited McGavock High School, part of the Academies of Nashville in the Ford NGL network, in order to highlight the school's record of success. Later that year, Nashville, Tennessee, was designated the first Ford NGL Model Community and has since hosted countless visitors from all over the country – including representatives from Hampton – who have sought to learn more about establishing or expanding career academies in their own school divisions.

Ford Next Generation Learning now offers a broad menu of services to school divisions throughout the country. Hampton City Schools formally established its partnership with Ford NGL in 2015, beginning the detailed planning process outlined in the Ford NGL Roadmap to fully transform its four high schools into "wall-to-wall" college and career academies.[8] Representatives from Ford NGL have visited Hampton on several occasions, and they provide ongoing mentoring and support throughout the development process. As part of the Ford NGL network, Hampton is eligible to participate in special conferences and professional development opportunities, and also has the opportunity to learn from the experiences of other divisions in the network. The total cost of Hampton's three-year agreement with Ford NGL is $90,000 (which does not include other startup costs and program expenses).[9] At the end of three years,

6 James J. Kemple, 2008, "Career Academies: Long-Term Impacts on Labor Market Outcomes, Educational Attainment, and Transitions to Adulthood," MDRC.

7 Office of the Press Secretary, The White House, 2014, Youth CareerConnect Fact Sheet.
8 Ford Next Generation Learning, 2017, "Ford NGL Executive Summary."
9 Jane Hammond, "Dozens of Hampton school, city employees made trips to check out Nashville academies," Daily Press (Aug. 16, 2017).

Hampton may choose to continue its association with the Ford NGL network at additional cost.

The Academies Of Hampton: A Closer Look

School divisions all over the country have introduced college and career academies in a variety of ways. Even within the Ford NGL network, there are different models – depending on the size of the school division, the proportion of participating students, the kinds of career training offered and many other factors. Authorities such as the College and Career Academy Support Network, the National Career Academy Coalition and the MDRC (the sponsor of the 2008 study) do, however, all agree that "career academies" necessarily share three essential features:

• Small learning communities (SLCs);

• A college-preparatory curriculum with a career theme; and

• Community partnerships with employers and postsecondary institutions.

These features figure prominently in the design of the Academies of Hampton. Let's look at each one in turn, and how Hampton City Schools expects each feature to transform the high school experience of its students.

SMALL LEARNING COMMUNITIES

Secondary education specialists' embrace of career academies and career and technical education in the past 10-15 years has been accompanied by a parallel enthusiasm for small learning communities (SLCs). **Recent research and anecdotal evidence suggest that students (particularly those in challenging socioeconomic circumstances) fare better in smaller, more personal learning environments where a core group of teachers and students share several classes over an extended period.** Large public high schools have lowered dropout rates and improved academic performance by creating SLCs in a variety of

ways – including the "school-within-a-school" approach of traditional career academies.

SLCs figure prominently in the design of the Academies of Hampton. Beginning in the 2017-18 school year, all ninth-grade students in Hampton attended their usual neighborhood school, but they were simultaneously assigned to a Freshman Academy of around 100-120 students, five to six dedicated teachers and a common guidance counselor. Ninth-graders now take most of their required coursework with other members of their academy, including the Success 101 freshman seminar, which helps them explore their professional and academic interests. At the end of the seminar, they develop a 10-year plan for their future and decide which college and career academies they might like to attend the following year. Academies of Hampton director Veronica Hurd tells us that the freshman academies also engage in a wide range of fun, community-building activities outside the classroom. The goal is to provide every student with a personal support network so they do not feel anonymous or overwhelmed, even in a larger high school of more than 1,000 students.

A COLLEGE-PREPARATORY CURRICULUM WITH A CAREER THEME

Another key aspect of the career academy experience is "a combination of academic curricula that is preparing a student for postsecondary education and a career theme that the student is interested in pursuing upon high school graduation."[10] Ideally, career academies not only offer students an opportunity to take CTE coursework in a specialized field such as business management, information technology, child development or the culinary arts, but the career theme is also reinforced through assignments and special projects in the students' core subjects. Providing college and career counseling and encouraging students to plan for their next steps after high school graduation are pivotal to the career academy experience.
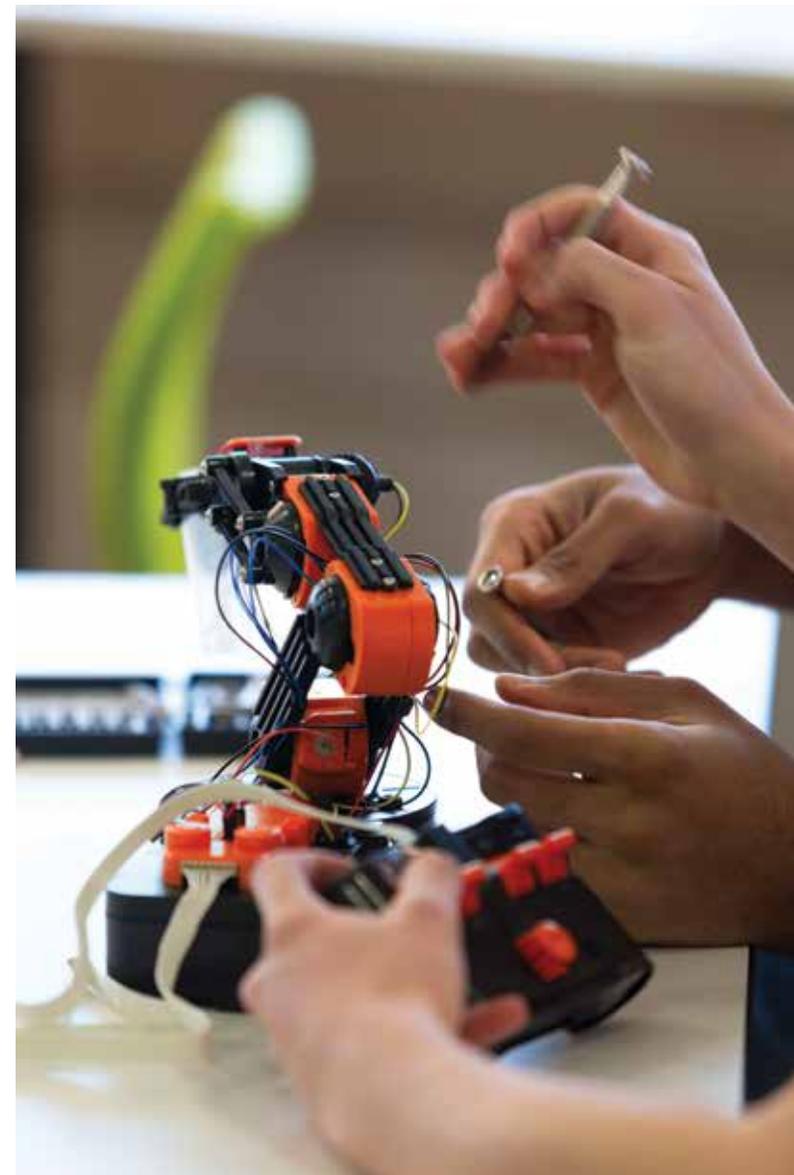
Beginning this fall, the students who participated in last year's freshman academies are now commencing their studies at one of 16 different college and career academies at the city's four high schools:

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10 The Academies of Hampton Master Plan, 25.

BETHEL HIGH SCHOOL	
The Governor's Health Sciences Academy	Academy of Law and Public Safety
Academy of Transportation, Analytics, Information and Logistics	Academy of Media, Arts and Design
HAMPTON HIGH SCHOOL	
Academy of Technology and Engineering	The International Baccalaureate Program
Academy of Health, Human and Financial Services	The Maritime Academy
KECOUGHTAN HIGH SCHOOL	
The Governor's STEM Academy of Architecture, Environment and Engineering	Academy of Teaching, Education and Learning
Academy of Entrepreneurship and Information Design	On Stage: Performing Arts Academy
PHOEBUS HIGH SCHOOL	
Academy of Cybersecurity, Engineering and Robotics	Academy of Hospitality and Tourism
Academy of Digital Video Production	Academy of Advanced College Experience

Most of these academies feature two or more career pathways. Students enrolled in the Governor's Health Sciences Academy at Bethel High School, for example, may follow one of four different pathways: Health Informatics and Support Services, Diagnostic Services, Therapeutic Services, and Biotechnology Research and Development. All students in the academy take their core subject courses together, but each pathway has its own distinct course sequence, suggested electives and target certification. Students following the Diagnostic Services pathway, for example, will take Intro to Health Sciences in 10th grade, Medical Terminology in 11th grade and Principles of Biomedical Sciences in 12th grade, in addition to completing a senior capstone project. They will be able to graduate with one or more specific target certifications, including Certified Nursing Assistant and Pharmacy Technician. They might begin

work in one of these areas directly after high school – or with additional postsecondary education, they could eventually become a registered nurse, a medical doctor or a medical researcher.

BETHEL HIGH SCHOOL'S
Academies and Pathways

ACADEMIES

Academy of Media, Arts, and Design	Transportation, Analytics, Information, and Logistics Academy	Academy of Law and Public Safety	The Governor's Health Sciences Academy

PATHWAYS

Academy of Media, Arts, and Design
1. Journalism
2. Digital Media

Transportation, Analytics, Information, and Logistics Academy
3. Logistics, Distribution, and Transportation
4. Geographic Information Systems
5. Business Management
6. Networking
7. Programming and Software Development

Academy of Law and Public Safety
8. Law and Legal Studies
9. Law Enforcement
10. Fire Fighting/EMT

The Governor's Health Sciences Academy
11. Health Informatics and Support Services
12. Diagnostic Services
13. Therapeutic Services
14. Biotechnology Research and Development

Connect the pathway number with the pathway course sequence below.

If you would like more details, don't forget to check the back of the book for course descriptions.

PATHWAY COURSE SEQUENCES

1.
10th Journalism I
11th Journalism II
12th Journalism III w/Video and Media Technology
Senior Capstone

2.
10th Communication Systems
11th Digital Visualization
12th Video Media Production
Senior Capstone

3.1
10th Technology Foundations
11th Global Logistics and Enterprise Systems I
12th Global Logistics and Enterprise Systems II
Senior Capstone

3.2
10th Technology Foundations
11th Automotive Tech I or Collision I -NHREC
12th Automotive Tech II or Collision II -NHREC
Senior Capstone

4.
10th IT Fundamentals
11th Geospatial Technology I
12th Geospatial Technology II
Senior Capstone

5.
10th Computer Information Systems
11th Accounting
12th Business Management and Business Law
Senior Capstone

6.1
10th Information Technology Fundamentals
11th Computer Network Software Operations
12th Advanced Computer Network Software Operations
Senior Capstone

6.2
10th IT Fundamentals
11th Computer Network Software Operations
12th CISCO Networking/ Cybersecurity Academy -NHREC

7.1
10th IT Fundamentals or AP Computer Science Principles
11th Programming I
12th Programming II
Senior Capstone

7.2
10th IT Fundamentals
11th AP Computer Science Principles or Design, Multimedia and Web Technologies
12th Programming I & II - NHREC

7.3
10th IT Fundamentals
11th Database Design and Management I
12th Database Design and Management II
Senior Capstone

8.
10th Introduction to Law
11th Ethics and Law Legal Oratory Debate
12th Legal Research and Writing
Senior Capstone

9.
10th Public Safety I
11th Criminal Justice I
12th Criminal Justice II
Senior Capstone

10.
10th Public Safety I Fire Fighting - NHREC
11th EMT -NHREC or Medical Terminology
12th Senior Capstone

11.
10th Introduction to Health and Medical Services
11th Health Informatics
12th Medical Coding and Billing
Senior Capstone

12.1
10th Introduction to Health Sciences
11th Medical Terminology
12th Principles of Biomedical Sciences
Senior Capstone

12.2
10th Medical Terminology
11th Medical Specialty - NHREC
12th Medical Specialty - NHREC
Senior Capstone

13.
10th Medical Terminology
11th Sports Medicine I
12th Sports Medicine II
Senior Capstone

14.
10th Principles of Biomedical Sciences
11th Human Body Systems
12th Medical Intervention
Senior Capstone

HAMPTON HIGH SCHOOL'S
Academies and Pathways

ACADEMIES

The International Baccalaureate Program	The Maritime Academy	Academy of Health, Human, and Financial Services	Academy of Technology and Engineering

PATHWAYS

The International Baccalaureate Program
1. International Baccalaureate

The Maritime Academy
2. Shipbuilding and Repair
3. Ship Design

Academy of Health, Human, and Financial Services
4. Counseling, Nutrition and Wellness
5. Financial Services

Academy of Technology and Engineering
6. Engineering Design and Development
7. Information Technology
8. Audio Engineering
9. Construction Technology

Connect the pathway number with the pathway course sequence below.

If you would like more details, don't forget to check the back of the book for course descriptions.

PATHWAY COURSE SEQUENCES

1.
International Baccalaureate

2.
10th Introduction to Maritime Studies
11th Materials and Processes
12th Maritime Skilled Trade -NHREC

3.
10th Introduction to Maritime Studies
11th Technical Drawing and Design
12th Materials and Processes
Senior Capstone

4.1
10th Introduction to Family and Human Services
11th Individual Development
12th Psychology
Senior Capstone

4.2
10th Introduction to Family and Human Services
11th Nutrition and Wellness
12th Sports Medicine I
Senior Capstone

5.
10th Computer Information Systems
11th Accounting
12th Advanced Accounting
Senior Capstone

6.
10th Introduction to Engineering Design - PLTW
11th Digital Electronics - PLTW
12th Principles of Engineering - PLTW
Senior Capstone

7.1
10th Computer Information Systems
11th Design, Multimedia, and Web Technologies
12th Advanced Programming -NHREC

7.2
10th IT Fundamentals
11th Design, Multimedia, and Web Technologies
12th Programming
Senior Capstone

8.
10th Electronic Music Production I
11th Electronic Music Production II
12th Electronic Music Production III
Senior Capstone

9.1
10th Construction Technology
11th Technical Drawing and Design
12th Production Systems
Senior Capstone

9.2
10th Construction Technology
11th Specialized Trade I - NHREC
12th Specialized Trade II - NHREC

KECOUGHTAN HIGH SCHOOL'S
Academies and Pathways

ACADEMIES

The On Stage: Performing Arts Academy	Academy of Entrepreneurship and Information Design	Academy of Teaching, Education, and Learning	The Architecture, Environment, and Engineering - Governor's STEM

PATHWAYS

1. Theater Design and Technology	4. Entrepreneurship and Marketing	7. Education and Training	9. Construction Design
② Theater Performance	5. World Banking and Finance	8. Child Development	10. Architectural Engineering
3. Art of Movement	6. Information Design		11. Environmental Studies

Connect the pathway number with the pathway course sequence below.
If you would like more details, don't forget to check the back of the book for course descriptions.

PATHWAY COURSE SEQUENCES

1.
10th 3D Design and Technical Drama
11th Theater Technical Drawing and Design
12th Entertainment Design and Technology
Senior Capstone

2.
10th Acting and Dramatic Literature and History
11th Acting II and Technical Drama
12th Acting III and Directing
Senior Capstone

3.
10th World Dance
11th Ballet I and Modern Dance I
12th Ballet II and Modern Dance II
Senior Capstone

4.
10th Marketing I
11th Entrepreneurship
12th Accounting
Senior Capstone

5.
10th Computer Information Systems
11th Accounting
12th Advanced Accounting
Senior Capstone

6.
10th IT Fundamentals or Cybersecurity Fundamentals
11th Design, Multimedia, and Web Technologies
12th Adv. Design, Multimedia, and Web Technologies
Senior Capstone

7.
10th Introduction to Early Childhood, Education, and Service I
11th Virginia Teachers for Tomorrow I
12th Virginia Teachers for Tomorrow II
Senior Capstone

8.
10th Intro. to Early Childhood, Education, and Service
11th Early Childhood, Education, and Service I
12th Early Childhood, Education, and Service II
Senior Capstone

9.
10th Construction Technology
11th Production Systems
12th Materials Processes
12th Engineering Studies
Senior Capstone

10.
10th Technical Drawing
11th Architectural Drawing
12th Engineering Drawing
12th Advanced Architectural and Engineering Drawing and Design
Senior Capstone

11.
10th Introduction to Natural Resources and Ecology Systems
11th Fisheries and Wildlife Management
12th Fisheries and Wildlife
Senior Capstone

PHOEBUS HIGH SCHOOL'S
Academies and Pathways

ACADEMIES

Academy of Cybersecurity, Engineering, and Robotics	Academy of Hospitality and Tourism	Academy of Digital Media Production	Academy of Advanced College Experience

PATHWAYS

① Engineering and Robotics	5. Culinary Arts	8. Television and Media Production	10. Advanced College Experience
2. Manufacturing	6. Travel and Tourism	9. Video Media Production	
3. Cybersecurity Systems Technology	7. Event Marketing		
4. Cybersecurity Software Operations			

Connect the pathway number with the pathway course sequence below.
If you would like more details, don't forget to check the back of the book for course descriptions.

PATHWAY COURSE SEQUENCES

1.
10th Introduction to Engineering Design - PLTW
11th Principles of Engineering - PLTW
12th Digital Electronics - PLTW
12th Computer Integrated Manufacturing - PLTW
Senior Capstone

2.1
10th Manufacturing Systems I
11th Manufacturing II
12th Precision Machining - NHREC
12th Mechatronics - NHREC

2.2
10th Manufacturing Systems I
11th Welding I -NHREC
12th Welding II -NHREC

3.
10th Cybersecurity Fundamentals
11th Programming I
12th Cybersecurity Systems Technology -NHREC or Advanced, Cybersecurity Systems Technology -NHREC

4.
10th Cybersecurity Fundamentals
11th Cybersecurity Network Operations
12th Advanced Cybersecurity Network Operations
Senior Capstone

5.
10th Introduction to Culinary Arts
11th Culinary Arts I
12th Culinary Arts II
Senior Capstone

6.
10th Hospitality and Tourism I
11th Hospitality and Tourism II
12th Travel and Tourism Marketing and Sales
Senior Capstone

7.
10th Introduction to Marketing
11th Event Marketing
12th Event Management
Senior Capstone

8.
10th Television and Media Production I
11th Television and Media Production II
12th Television and Media Production III
Senior Capstone

9.
10th Communication Systems
11th Imaging Technology
12th Video and Media Technology
Electronic Music Production

10.
Advanced College Experience

Two of the 16 academies have a more distinct academic emphasis—the International Baccalaureate Program (which was already part of the programming at Hampton High School), and the Academy of Advanced College Experience, which allows for dual enrollment at Thomas Nelson Community College. Students in this academy have an opportunity to earn an associate degree as well as a high school diploma. In addition, all 10th-graders may enroll in a Gifted Enrichment seminar that combines honors and AP coursework with any career pathway. (In the current school year, the necessary enrollment numbers for the Gifted Enrichment seminar were met only at Kecoughtan High School.)

Placement in all of the academies and pathways was determined by lottery (with an additional application required for the International Baccalaureate Program, Advanced College Experience, and Gifted Enrichment seminar), and 97 percent of this year's 10th-graders received their first choice. Table 1 shows that the best-attended academies this fall are the Governor's Health Sciences Academy (184 students) and the Academy of Technology and Engineering (179), while the fewest students are attending the Maritime Academy and the Academy of Advanced College Experience (each with an enrollment of 31).

Academies of Hampton director Veronica Hurd has noted that several of the most strongly populated pathways involve fields that are already familiar to students in their everyday lives, such as digital media, therapeutic services (which emphasizes sports medicine) and the culinary arts. The Geographic Information Systems and Manufacturing pathways, meanwhile, did not garner enough student interest to be viable this year. Thus, a goal of the Academies staff this year is to provide a more comprehensive introduction to pathways that students might initially know less about, and to dispel preconceived notions that could discourage them from exploring certain fields.

TABLE 1

ENROLLMENT STATUS OF RISING 10th-GRADERS ON MAY 29, 2018

Academy and Pathway – Active Student Enrollments	Total
BHS - Academy of Law and Public Safety (ALPS)	124
Firefighter/Emergency Medical Technician (FEMT)	25
Law and Legal Services (LLS)	49
Law Enforcement (LE)	50
BHS - Academy of Media, Arts and Design (AMAD)	74
Digital Media (DM)	61
Journalism (JN)	13
BHS - Governor's Health Sciences Academy (GHSA)	184
Biotechnology Research and Development (BRD)	20
Diagnostic Services (DS)	50
Health Informatics and Support (HIS)	40
Therapeutic Services (TS)	74
BHS - Transportation, Analytics, Information and Logistics Academy (TRAIL)	55
Business Management (BM)	27
Networking (NT) - Year 1 combined with programming and software dev.	3
Programming and Software Development (PSD)	25
HHS - Academy of Health, Human and Financial Services (AHHFS)	75
Counseling, Nutrition and Wellness (CNW)	61
Financial Services (FS)	14
HHS - Academy of Technology and Engineering (ATE)	179
Audio Engineering (AE)	32
Construction Technology (CT)	18
Engineering Design and Development (EDD)	76

TABLE 1

ENROLLMENT STATUS OF RISING 10th-GRADERS ON MAY 29, 2018

Academy and Pathway – Active Student Enrollments	Total
Information Technology (IT)	53
HHS - International Baccalaureate Program (IB)	80
International Baccalaureate (IB)	80
HHS - Maritime Academy (MA)	31
Ship Building and Repair (SBR)	21
Ship Design (SD)	10
KHS - Academy of Entrepreneurship and Information Design (AEID)	97
Entrepreneurship and Marketing (EM)	52
Information Design (ID)	23
World Banking and Finance (WBF)	22
KHS - Academy of Teaching, Education, and Learning (ATEL)	60
Child Development (CD)	60
KHS - Gifted Enrichment Seminar (GES)	32
Gifted Enrichment Seminar (GES)	32
KHS - Academy of Architecture, Environment and Engineering - Governor's STEM (AAEE)	118
Architectural Engineering (AE)	60
Construction Design (CD)	40
Environmental Studies (ES)	18
KHS - On Stage: Performing Arts Academy (PAA)	61
Theater Design and Technology (TDT)	20
Theater Performance (TP)	41
PHS - Academy of Advanced College Experience (ACE)	31
Advanced College Experience (ACE)	31

TABLE 1 ENROLLMENT STATUS OF RISING 10th-GRADERS ON MAY 29, 2018	
Academy and Pathway – Active Student Enrollments	**Total**
PHS - Academy of Cybersecurity, Engineering and Robotics (ACER)	87
Cybersecurity Software Operations (CSO)	13
Cybersecurity Systems Technology (CST)	18
Engineering and Robotics (ER)	56
PHS - Academy of Digital Video Production (ADVP)	50
Television and Media Production (TMP)	21
Video Media Production (VMP)	29
PHS - Academy of Hospitality and Tourism (AHT)	79
Culinary Arts (CA)	57
Travel and Tourism (TT)	22
Source: Academies of Hampton, Hampton City Schools, 2018	

Students in Hampton may attend any academy, although priority placement was given to those who wanted to remain within their current school attendance zone. Cynthia Cooper, Hampton City Schools' executive director of research, planning and evaluation, tells us that the majority of 10th-graders (77 percent) are attending an academy at their "home" high school – although every high school is sending at least a small group of students to each of the other three. Two different transportation options were offered to the 334 students who are now traveling to a new school – a Hampton City Schools shuttle service between students' zoned schools and academy schools (essentially, an additional school bus ride after their first school bus ride), or the use of public transportation (free to all high school students with an HRT Student Freedom Pass). The overwhelming majority (91 percent) opted to take the school shuttle, so these students always leave the last class of their day several minutes early in order to catch the shuttle that brings them to their usual school bus.

COMMUNITY PARTNERSHIPS WITH EMPLOYERS AND POSTSECONDARY INSTITUTIONS

A third important feature of career academies is community partnerships. Academies typically draw from the expertise of leaders in business and postsecondary education who can "give advice on curriculum, appear as guest speakers in classes, host field trips, supervise student internships, provide financial or in-kind support," and perhaps even serve as mentors for individual students.[11] Since the purpose of career academies is to equip students with the skills and experience that will allow them to thrive in the "real world," academies must communicate and interact closely with that world. The benefits are mutual, since employers are constantly seeking skilled, experienced workers, and career academies foster potential workers with in-demand qualifications and specialized training. In this vein, the Academies of Hampton hopes to facilitate a job-shadowing experience for all students in the summer between their 10th- and 11th- grade years.

Community partnerships have been integral to the planning of the Academies of Hampton from the very beginning. In April 2015, Hampton City Schools hosted its first targeted sessions (facilitated by Ford NGL) with a wide variety of community stakeholders – including representatives from the city of Hampton, the Virginia Peninsula Chamber of Commerce and the Peninsula Council for Workforce Development, as well as other leaders in the education, business and philanthropic communities. A similar group came together the following year to develop the "Portrait of a Hampton Graduate" and to discuss the specific competencies that were deemed most essential for preparing students for high-skill, high-wage jobs in Hampton Roads.

The Academies of Hampton Steering Committee, composed of 13 leading members of the Hampton Roads business and higher education communities (including Old Dominion University Professor of Economics Robert McNab, lead author of the State of the Region report, and representatives from Hampton City Schools), was instrumental in formulating the final lineup of academies and pathways. Thus, the academies were explicitly designed to reflect needs and opportunities within the Hampton Roads job market. The Maritime Academy, with pathways in ship design and shipbuilding, is

11 David Stern, Charles Dayton and Marilyn Raby, *Career Academies*, 5.

a notable example. Feedback from the business community has allowed school administrators to identify some specialized needs within the Hampton Roads job market. Donna Woods, executive director of school leadership for Hampton City Schools, cites the high demand for emergency dispatchers, for example, as one factor that has shaped the programming of the Academy of Law and Public Safety.

Beyond merely responding to current market needs, the Academies of Hampton aspires to become a driver of economic development. Some aspects of the Academies' programming were designed less with the current job market in mind than what it might look like in five to 10 years. The Transportation, Analytics, Information and Logistics Academy and the Academy of Cybersecurity, Engineering and Robotics both seek to provide students with cutting-edge training in rapidly changing fields. Demand for workers in these fields is almost certain to grow. A regular pool of high school graduates with practical experience in cybersecurity and specialized information technologies might, for example, eventually help to attract new firms and startup companies to Hampton Roads.
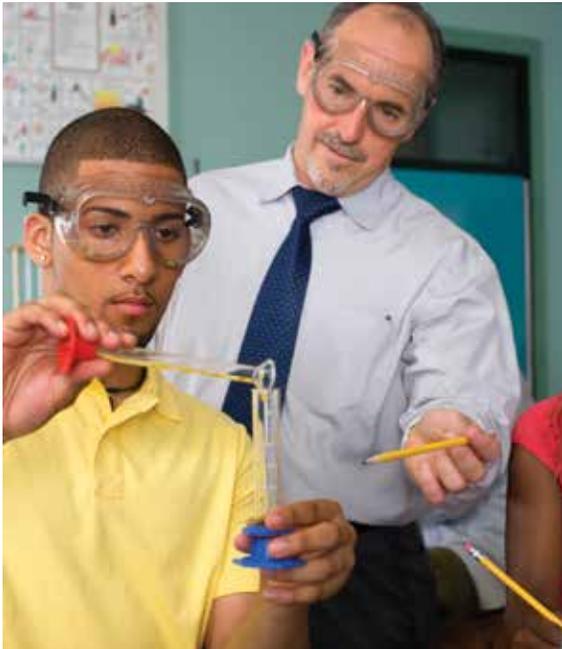
The Academy Model: What Works And What Doesn't

Various studies, reports and anecdotal evidence point to the successes of career academies. Students enrolled in career academies often have lower dropout rates, better attendance and higher grades than their peers. They may be more likely to attend college, or to find meaningful employment after graduation.[12] And students themselves give the career academies high marks, often praising the "family-like" learning atmosphere or expressing appreciation for the opportunity to acquire and develop "real life" skills. The published performance indicators for the first cohort of students who graduated from one of Hampton's four "school-within-a-school" academies in 2016 are very impressive – including, most notably, a 100 percent Virginia On-Time Graduation Rate (as opposed to 89.8 percent for the division's non-academy students) (see Table 2).

With such glowing reviews, it's tempting to embrace career academies as a "miracle cure," but some words of caution are in order. As many observers have noted, some portion of the career academies' success is likely attributable to the particular cross-section of students they tend to attract (motivated, ambitious, possibly with a strong support network outside of school). These students might perform similarly well in other learning environments, but academies tend to group them together in one place. The 2016 Hampton academy graduates, for example, had a 29.4 percent eligibility rate for free and reduced-price meals, significantly lower than the 53.6 percent rate for non-academy graduates (see Table 2). Thus, the Hampton academy students came from households that were more financially secure than the student body as a whole – a disparity that may have played a role in their higher performance (see Table 3).

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12 For a concise summary of these findings, see David Stern, Charles Dayton and Marilyn Raby, "Career Academies," 7-15.

TABLE 2

HAMPTON HIGH SCHOOLS' FIRST COHORT RESULTS
BEFORE THE ACADEMIES OF HAMPTON "WALL-TO-WALL" TRANSITION, 2015-2016

	Students	Black	White	Other	Eligible for Free and Reduced-Price Meals	Virginia On-Time Graduation Rate	Dropout Rate
Academy Students	407	60%	27%	14%	29.4%	100%	0.0%
Non-academy Students	5,655	63%	25%	12%	53.6%	89.8%	2.8%

Source: Academies of Hampton, Hampton City Schools, 2018

TABLE 3

HAMPTON HIGH SCHOOLS BEFORE THE ACADEMIES OF HAMPTON
"WALL-TO-WALL" TRANSITION, 2015-2016

	Students	Black	White	Other	Eligible for Free and Reduced-Price Meals	Virginia On-Time Graduation Rate	Dropout Rate
Bethel High School	1,750	68%	18%	14%	46.8%	90.4%	2.2%
Hampton High School	1,400	79%	9%	12%	62.0%	92.5%	2.9%
Kecoughtan High School	1,700	44%	41%	15%	41.0%	92.2%	2.5%
Phoebus High School	1,000	70%	19%	11%	52.1%	86.5%	3.8%

Source: Academies of Hampton, Hampton City Schools, 2018

The MDRC Career Academies Evaluation of 2008 was notable because – in the words of its author, James J. Kemple – "It is one of the few studies of a school reform initiative that uses the design of a randomized, controlled field trial." What this means is that Kemple did not just compare the performance of academy and non-academy students within the same high school. Instead, he formed a "control group" of students who had actively applied to the academies and were eligible to attend, but who were ultimately not selected in a random lottery for admission. (In each of the nine high schools chosen for the study, there were more applicants than space available in the academy programs.) Thus, Kemple found a useful work-around for the "comparing apples to oranges" problem that often bedevils these kinds of investigations.

The 15-year study followed the two sets of academy and non-academy students during their high school careers and for eight years post-graduation. The pool of more than 1,400 young people came from medium- and large-sized school divisions "with substantially higher percentages of African-American and Hispanic students than exist in school districts nationally, as well as higher dropout rates, higher unemployment rates, and higher percentages of low-income families."[13] In Hampton Roads, no school division precisely meets this profile, although Hampton, Newport News, Norfolk, Portsmouth and Suffolk each resemble it in certain respects.

The study's most showstopping finding was that the academies "produced positive and sustained impacts on average monthly earnings throughout the eight-year follow-up period." Academy graduates earned an additional $2,088 per year, or an additional $16,704 (in 2006 dollars) over eight years. The disparities were even more dramatic for young men in the academy programs, who earned $3,722 more each year, or nearly $30,000 more over the eight-year post-high school period.[14] In addition, academy graduates were more likely to live independently with children and a spouse or partner, and the male academy graduates, in particular, were much more likely to be married and a custodial parent. Unsurprisingly, these results caught the attention of urban school divisions all over the country, which have long struggled to place at-risk students, particularly young men, on a path to a success.

The study did not, however, find significant distinctions in academic performance between the two groups. High school completion rates were approximately the same (only the "high-risk" academy students saw a small improvement), as were rates of enrollment in postsecondary education. Over 80 percent of the academy and non-academy students alike earned a high school diploma, and around 50 percent earned a postsecondary credential. Thus, according to Kemple's findings, the primary benefits of career academies are improved labor market outcomes and "transitions to adulthood," rather than more conventional measures of educational attainment.

One of the most important questions left unanswered by Kemple's study is whether the benefits of the classic "school-within-a-school" career academy can carry over to entire high schools – or even entire divisions, like the Academies of Hampton – that adopt the same approach. Some experts, like David Stern, director of the College and Career Academy Support Network at UC Berkeley, have suggested that a key aspect of the model's success is its voluntary nature, for teachers and students alike. The mere fact that individuals choose to teach and learn in a career academy helps to create a sense of family, or team spirit, that has made small learning communities so meaningful. "There are districts trying to push the career and college pathway to 100 percent" of their students, Stern said in a 2014 interview. "Some are going for 80 to 50 percent in districts or schools. We'll learn from these experiences what a sensible target is. I'm sure it varies from place to place."[15]

Stern's reservations are primarily concerned with the learning experience itself – but it's also important to consider the array of logistical challenges involved in establishing wall-to-wall career academies and transforming an entire division all at once. These range from concerns about student transportation, to finding the right teachers who are qualified to teach highly specialized courses, to coordinating meaningful job-shadowing experiences for an entire student body. The Academies of Hampton's success will hinge on how well the division is able to grapple with these logistical challenges.

There are also financial costs associated with the introduction and operation of an ambitious new program. The school administrators with whom we spoke were reluctant to place a discrete "price tag" on the Academies

13 Kemple, "Career Academies," 3-4.
14 Kemple, "Career Academies," 12-17.

15 Laurie Stern, "Career Academies: A New Twist on Vocational Ed," American RadioWorks (Sept. 10, 2014), at: http://www.americanradioworks.org/segments/career-academies.

initiative, as so many aspects of the program are intertwined with other aspects of the division's operations. The Hampton city budget indicates that an extra $265,000 in one-time funding was allotted to support the Academies of Hampton in FY18, followed by another $350,000 in FY19. The superintendent's proposed FY19 budget for Hampton City Schools identifies $667,200 in new "expenditure pressures" associated with the Academies of Hampton. Even so, the total proposed FY19 operating budget of $201.6 million represents an approximately $2 million decrease over the previous year, which can be attributed in part to declining enrollment.[16] The division has also received more than $525,000 in grants (not just in FY19) from the Virginia Department of Education and other community sources to implement the new program. Thus, the broad picture indicates that the Academies transformation has not created an outsized financial burden for the city of Hampton and its schools.

Cheryl Carrier, executive director of Ford NGL, was upbeat about the prospects for the Academies of Hampton – and for the wall-to-wall career academy model, more broadly – when we spoke to her by telephone. She cited the successes of the Nashville and Pinellas County, Florida, schools in transforming their entire divisions, particularly in raising their graduation rates. She emphasized that a key advantage of "scaling up" career academies division-wide is that this necessarily entails engaging and involving the entire community. Conversely, she has found that sites where the division-wide model did *not* work as well as hoped generally had not achieved the desirable level of community involvement. She told us that a great deal depends on dedicated school administrators and staff who are not only fully committed to the career academy model, but who also are proactive and successful in building and nurturing relationships with a wide range of employers and other community leaders.

Final Thoughts

This year will be a "trial by fire" with a definitive learning curve for the Academies of Hampton. The division's relationship with Ford NGL is likely to be a helpful asset as it negotiates a challenging year of transition. Although the outcome of Hampton's extreme high school makeover is yet to be known, Hampton City Schools is to be commended for its bold vision, and for the active steps it has taken toward creating a more meaningful, career-oriented learning experience for its entire student body.

Other school districts in Hampton Roads and Virginia will be closely watching how the Academies of Hampton navigates the rollout to the entire school division. Success, while not guaranteed, is certainly not obtainable if one does not try. Fortune favors the bold and, in this respect, the Academies of Hampton is a bold effort to improve the outcomes for its students and for Hampton Roads.

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16 FY19 Manager's Recommended Budget, Hampton City Schools, at https://hampton.gov/DocumentCenter/View/21472/16Schools; and Hampton City Schools Superintendent's Recommended Budget (March 14, 2018) at https://www.boarddocs.com/vsba/hampton/Board.nsf/files/AWUUND7CDA49/$file/Superintendent's%20Recommended%20Budget%20FY19%203-14-18.pdf.