HUNTERDON COUNTY VOCATIONAL SCHOOL DISTRICT
www.HCVSD.org

Kim Metz, Ed.D., Superintendent
Corinne Steinmetz, Business Administrator
District Board Office
8 Bartles Corner Road, Ste. 201
Flemington, NJ 08822
908-788-1119
FAX 908-806-4839

Dear Parents,

I hope your eighth graders are enjoying the year and growing more excited as high school approaches. Hopefully you have initiated discussions with your children regarding high school registration and the options that are available to them. With that being said, it is important the students understand there are three relatively new options available to them as they consider their options for high school; The Biomedical Sciences Academy, the Computer Science and Applied Engineering Academy and the Environmental Sustainability & Engineering Academy.

These Academies are operated through partnerships between Hunterdon County Vocational School District (HCVSD), the Hunterdon County Educational Services Center (ESC), and two of the county's high schools—North Hunterdon High School and Voorhees High School. Established to provide educational opportunities to students interested in pursuing careers in the fields of science, technology, engineering, and math, the Academies are available to all eighth grade students in Hunterdon County. Due to the structure of each Academy, students will spend their entire academic day at the school in which their Academy is located. For example, all students of the Biomedical Sciences Academy will take academic classes at North Hunterdon High School and all students of the Computer Science and Software Engineering Academy will take academic classes at Voorhees High School.

As Career and Technical Education programs, these Academies offer more to students than a traditional Advanced Placement or Honors course in high school. Both Academies have partnerships with colleges and universities, including RVCC, Rutgers, Rowan, Fairleigh Dickenson and Keane, which allows students to earn college credits while still in high school. In addition, all of the Academies have advisory boards composed of individuals with industry experience and professors from institutions of higher learning. Internship opportunities are also a significant aspect of this type of education, and HCVSD's partnership with Hunterdon Medical Center will allow students of both Academies to gain real-world experience while still in high school.

In order to be considered for the Academies, interested students must submit an application through www.hcvsd.org by Thursday, December 15th. This is an important decision in your child's life, and HCVSD is prepared to answer any questions you may have. Parents are encouraged to contact Mr. David Raupp at (908) 284-1444 x 2104 or draupp@hcvsd.org if they would like to learn more about these opportunities. I would also like to encourage you to attend one of our info sessions on October 12th at North Hunterdon High School or October 24th at Hunterdon County Educational Services Center located in 37 Hoffmans Crossing Rd., Califon, NJ 07830. Both sessions start at 6pm and you do not need to register in advance to attend.

Thank you in advance for your time and consideration. Please feel free to also contact me should you have questions regarding the admissions and application process. My phone number is (908) 788-1119 ext. 2029 or email me at tnalesnik@hcvsd.org.

Regards,

Tanya Nalesnik
Assistant Business Administrator &
Student Services Coordinator

MARK YOUR CALENDARS

IMPORTANT DATES AND EVENTS

ACADEMY INFORMATION SESSION ..... October 12, 2017
Information Session 6pm-8pm
North Hunterdon High School:

ACADEMY APPLICATIONS AVAILABLE ..... October 15, 2017
To apply, visit www.hcvsd.org

ACADEMY INFORMATION SESSION ..... October 24, 2017
Information Session 6pm-8pm
ESC: 37 Hoffmans Crossing Rd, Califon, NJ 07830

ACADEMY APPLICATION DEADLINE ..... December 15, 2017

ACADEMY TESTING ..... January 6, 2018

POLYTECH OPEN HOUSE ..... January 27, 2018
Bartles & Central Campus 10am-2pm

ACADEMY ACCEPTANCE ..... February 5, 2018

ACADEMY INTERVIEWS ..... TBD
(Accepted students only)

SUMMER EXCITE PROGRAM ..... July 9-13, 2018
Visit www.hcpolytech.org for more information.

HUNTERDON COUNTY VOCATIONAL SCHOOL DISTRICT

BARTLES CAMPUS
8 Bartles Corner Rd.
Suite #2
Flemington, NJ 08822
908.788.1119 P
908.284.1391 F

CENTRAL CAMPUS
10 Junction Rd.
Flemington, NJ 08822
908.284.1444 P
908.284.9824 F

ENVIRONMENTAL SUSTAINABILITY & ENGINEERING ACADEMY

WWW.HCVSD.ORG

GENERAL INFORMATION

- All eighth grade students in Hunterdon County are eligible to apply. Out of county students will be considered based on availability of seats.
- Acceptance into the program will be based on placement test scores, attendance, discipline records, 7th & 8th grade transcripts, and an interview.
- Students will be bused from their home to Voorhees High School(VHS) where the program is held. Students should coordinate transportation services through their school.
- The Academy program is designed for students to attend VHS the entire day and for all four years of high school.
- Each ESEA class is equivalent to one 55 minute class within a rolling block schedule.
- There are no fees for this program. The start up costs have been covered by grant funds and tuition is charged to the home school.
- After completing all the courses and academics necessary for graduation, students will graduate from the Academy.
- Students will be eligible to earn college credits from at least one or more NJ colleges. Colleges may require a discounted tuition fee.

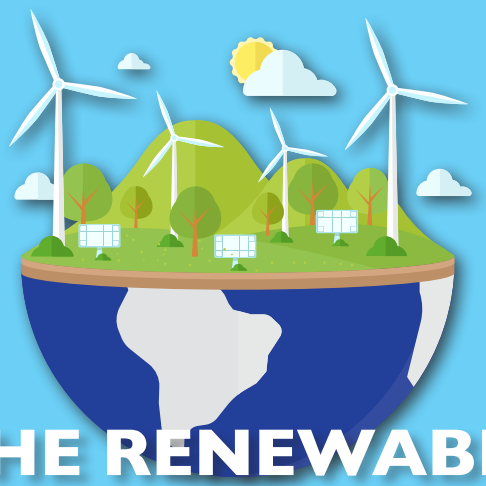
FAQ

How does a HCVSD Academy differ from my high school's program?

- 4 years of sequential cohesive technical education curriculum
- Multiple college credits and certifications
- Career focused student organizations
- Professional Advisory Board comprised of collegiate professors and industry professionals
- Structured learning experiences through internships and mentorships.

FOR MORE INFORMATION

Jessica Cangelosi-Hade
Director of Curriculum and Academies
Phone: (908) 246.3488
Email: jcangelosi-hade@hcvsd.org



THE RENEWABLE ENERGY INDUSTRY GENERATED

2.3 MILLION

JOBS GLOBALLY LAST YEAR

WWW.HCVSD.ORG

HUNTERDON COUNTY VOCATIONAL SCHOOL DISTRICT

ENVIRONMENTAL SCIENCES

ENVIRONMENTAL SUSTAINABILITY & ENGINEERING ACADEMY

The Environmental Sustainability & Engineering Academy (ESEA) is the county's first four-year academy that focuses on renewable & sustainable energy in concert with environmental engineering. The program's curriculum will infuse multiple nationally recognized curricula aligned with the Curriculum for Agricultural Science Education (CASE) Natural Resources & Ecology program, Project Lead the Way's Introduction to Engineering and NJ High School's Green Program of Study Sustainable Energy.

Hunterdon County Vocational School District's ESE Academy is operated on 40-acres of environmental and agriculture land located at Hunterdon County Educational Services Commission's (ESC) facility in Califon. The students take academic courses at Voorhees High School. The program provides students with exposure to engineering principles, resource management and policy development, sustainable resource management, and principles of renewable energy.

The HCVSD Academy model offers a unique and comprehensive approach to career and technical education. Students enroll in four years of a cohesive and sequential curriculum that provides multiple opportunities for students to earn college credits while in high school. Students participate in structured learning experiences such as internships and mentorships that are relevant to their intended college and career pathways. Additionally, students participate in career-focused extracurricular student organizations, exposing students to both local and national competitions, as well as scholarship opportunities.

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ESEA I

This introductory course explores sustainable environmental practices through the lens of natural resources and ecology, energy sources and production, agriculture and food systems, water quality and management, waste production and management, and other environmental topics. Students are challenged to consider social, economic, and environmental consequences while collaborating to produce sustainable environmental practices through scientific inquiry, engineering, site assessments, computer models, upgrading regulations, and meeting specialists in various green careers.

10

ESEA II

The second year course explores sustainable environmental practices through service-learning. Students explore detailed resources associated with natural resources and ecology, energy sources and production, agriculture and food systems, and other environmental topics. They are challenged to consider social, economic, and environmental consequences through a service-learning project guiding them through a problem-solving process utilized by environmental professionals to approach their work logically.

11

ESEA III

Students will engage in the AP Environmental Science course as well as a Principles of Engineering course. Students will develop skills in technical representation and documentation of design solutions according to accepted technical standards, and they will use current 3D design and modeling software to represent and communicate solutions. In addition, the development of computational methods that are commonly used in engineering problem solving, including statistical analysis and mathematical modeling, are emphasized. This course will also partner with Rutgers University to allow students the opportunity to earn college-level credits through the University's CASE Natural Resources and Ecology program.

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ESEA IV

In the fourth year, students get the opportunity to work in a team to deliver a sustainable solution to a real-world environmental and/or engineering problem. Through the project, students apply effective practices in problem solving, documentation, data collection and analysis, and presentation. Students work collaboratively to produce an implementation plan through scientific inquiry, site assessments, asset mapping, computer models, and meeting specialists associated with their project.

ENVIRONMENTAL SCIENCES

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GENERAL INFORMATION

- All eighth grade students in Hunterdon County are eligible to apply. Out of county students will be considered based on availability of seats.
- Individuals interested in CSAEA are highly encouraged to apply, no prior computer science experience necessary.
- Acceptance into the program will be based on placement test scores, attendance, discipline records, 7th & 8th grade transcripts, and an interview.
- Students will be bused from their home to Voorhees High School (VHS), where the program is held. Students should coordinate transportation services through their school.
- The Academy program is designed for students to attend VHS the entire day and for all four years of high school.
- Each CSAEA class is equivalent to one 55 minute class within a rolling block schedule
- There are no fees for this program. The start up costs have been covered by grant funds and tuition is charged to the home school.
- After completing all the courses and academics necessary for graduation, students will graduate from the Computer Science and Applied Engineering Academy.
- CSAEA is not a substitute for the NJ State math and science graduation requirements.
- Students will be eligible to earn AP credit, as well as college credits. Colleges may require a discounted tuition fee.

FAQ

How does a HCVSD Academy differ from my high school's program?

- 4 years of sequential cohesive technical education curriculum
- Multiple college credits and certifications
- Career focused student organizations
- Professional Advisory Board comprised of collegiate professors and industry professionals
- Structured learning experiences through internships and mentorships.

FOR MORE INFORMATION

Jessica Cangelosi-Hade
Director of Curriculum and Academies
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BY 2020 THERE WILL BE
1.4 MILLION
COMPUTING JOBS

Women earn 57% of all undergraduate degrees, but only 18% of degrees are in computer and infomation sciences.

71% of all new jobs in STEM are in computing. Only 8% of STEM graduates are in computer science.

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COMPUTER SCIENCE AND APPLIED ENGINEERING ACADEMY

COMPUTER SCIENCE

HUNTERDON COUNTY VOCATIONAL SCHOOL DISTRICT

COMPUTER SCIENCE & APPLIED ENGINEERING ACADEMY

The Computer Science and Applied Engineering Academy (CSAEA) employs a rigorous, highly focused four-year program for students with career interests in Computer Science. The CSAEA utilizes a specialized curriculum that combines resources from Project Lead the Way and multiple colleges and universities. This provides students with education in various platforms and coding languages. Students collaborate on team projects that emulate real-world career tasks. Students are also exposed to specializations in Computer Science, such as simulation and modeling, artificial intelligence, and cybersecurity.

The HCVSD Academy model offers a unique and comprehensive approach to career and technical education. Students enroll in four years of a cohesive and multi-faceted computer science curriculum in partnership with Fairleigh Dickinson University. This provides students with multiple opportunities to earn college credits while in high school. Students participate in structured learning experiences such as internships and mentorships that are relevant to their intended college and career pathways. Additionally, students participate in career-focused extracurricular student organizations, exposing students to both local and national competitions, as well as scholarship opportunities.

CSAEA students take academic courses through Voorhees High School (VHS). VHS offers a wide range of coursework in their program of studies, including many Honors and AP options.

COMPUTER SCIENCE

9

CSAEA I

Students will be introduced to a variety of topics in their first year, including algorithms, graphics, graphical user interfaces, basic control circuits, and simulation and modeling. Students will also experiment with Scratch, App Inventor, Python, and NetLogo.

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CSAEA II

The second year of the curriculum will focus on the Internet, introducing students to protocols and bandwidth, security and cryptography, languages such as HTML5, CSS, databases, SQL, PHP, and JavaScript, visualizing data, Firefox, and Python. In addition, this course will prepare students for the AP Computer Science Principles exam.

11

CSAEA III

In their third year, students will focus on further developing their computational thinking skills through the medium of Android™ App development for mobile platforms. The course utilizes industry-standard tools such as Android Studio, Java™ programming language, XML, and device emulators. This course prepares students for the AP Computer Science A exam.

12

CSAEA IV

Students will be introduced to the tools and concepts of cybersecurity and are encouraged to create solutions that allow people to share computing resources while protecting privacy. This course also raises students' knowledge of and commitment to ethical computing behavior. The curriculum culminates in students completing a capstone project, where teams of students will design and deliver software solutions to real-world problems.

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GENERAL INFORMATION

- All eighth grade students in Hunterdon County are eligible to apply. Out of county students will be considered based on availability of seats.
- Acceptance into the program will be based on placement test scores, attendance, discipline records, 7th & 8th grade transcripts, and an interview.
- Students will be bused from their home to North Hunterdon High School (NHHS), where the program is held. Students should coordinate transportation services through their school.
- The Academy program is designed for students to attend NHHS the entire day and for all four years of high school.
- Each BSA class is equivalent to one 55 minute class within a rolling block schedule.
- There are no fees for this program. The start up costs have been covered by grant funds and tuition is charged to the home school.
- After completing all the courses and academics necessary for graduation, students will graduate from the Biomedical Sciences Academy.
- BSA is not a substitute for the NJ State math and science graduation requirements.
- Students will be eligible to earn college credits from at least one or more NJ colleges. Colleges may require a discounted tuition fee.

FAQ

How does a HCVSD Academy differ from my high school's program?

- 4 years of sequential cohesive technical education curriculum
- Multiple college credits and certifications
- Career focused student organizations
- Professional Advisory Board comprised of collegiate professors and industry professionals
- Structured learning experiences through internships and mentorships.

FOR MORE INFORMATION

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DID YOU KNOW?

Employment of biomedical engineers is projected to **grow 23% from 2014 to 2024**, much faster than the **7%** average for all other occupations.

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HUNTERDON COUNTY VOCATIONAL SCHOOL DISTRICT

BIOMEDICAL SCIENCES

BIOMEDICAL SCIENCES ACADEMY

The Biomedical Sciences Academy (BSA) employs a rigorous, highly focused four-year program for students with career interests in the biomedical field. The BSA utilizes Project Lead the Way's curriculum in addition to college curriculum from Rutgers University. This program provides students with exposure to concepts of human medicine, physiology, genetics, microbiology, and public health. Students engage in activities like investigating the death of a fictional person to learn content in the context of real-world cases. BSA students can earn up to 19 college credits in health and medical courses from Rutgers School of Health Professions (Rutgers SHP)

The HCVSD Academy model offers a unique and comprehensive approach to career and technical education. Students enroll in four years of a cohesive curriculum that provides multiple opportunities for students to earn college credits while in high school. Students participate in structured learning experiences such as internships and mentorships that are relevant to their intended college and career pathways. Additionally, students participate in career-focused extracurricular student organizations, exposing students to both local and national competitions, as well as scholarship opportunities.

9

BSA I

In the introductory course of the Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life. Emphasis is placed on the role of the health care practitioner as both provider and consumer of health care services.

10

BSA II

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. It is designed to give the students a selective overview of human anatomical structure and an analysis of human physiological principles. Exploring science in action, students build organs and tissues on a skeletal Maniken®; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases.

11

BSA III

Students follow the life of a fictitious family as they investigate how to prevent, diagnose, and treat disease. Students will engage in medical terminology, giving the students a comprehensive knowledge of word construction, definition and use of terms related to all areas of medical science. Additionally, students explore how to detect and fight infection; screen and evaluate the code in human DNA; evaluate cancer treatment options; and prevail when the organs of the body begin to fail.

12

BSA IV

In the final year students will design innovative solutions for the most pressing health challenges of the 21st century. This course provides students with a basic understanding of what clinical research is and the scientific principles on which it is based.

Students address topics ranging from public health and biomedical engineering to clinical medicine and physiology. They also have the opportunity to work on an independent design project with a mentor or advisor from a university, medical facility, or research institution

BIOMEDICAL SCIENCES

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EXCITE

HUNTERDON COUNTY POLYTECH • CAREER & TECHNICAL SCHOOL •

EXPLORE CAREERS IN TECHNICAL EDUCATION

Spend a week fully imersered in what you love at Polytech's summer EXCITE program. Do you love hair and make-up? How about tinkering on cars, writing code, or whipping up tasty treats? The EXCITE summer program is designed for students entering 6th-8th grade to explore different careers in the real world.

- AESTHETICS
- AUTO BODY
- AUTO SERVICE
- COSMETOLOGY
- CULINARY & BAKING
- GRAPHIC DESIGN
- EARLY CHILDHOOD EDUCATION
- NURSING
- VIDEO PRODUCTION
- COMPUTER SCIENCE
- ENVIRONMENTAL SCIENCE
- BIOMEDICAL SCIENCE

The EXCITE program will run July 9-13, 2018.
For more information check our website at www.hcvsd.org.