

# **High School Green Academies**

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High School Green Academies programs provide a basic education for students interested in pursuing careers in the green or clean tech industry. Young students obtain a great deal of information about the green economy from these programs. This is knowledge they can use when planning for their future careers.

Two well-respected High School Green Academies programs in New York State are offered at Bridgehampton High School and East Islip High School. Both schools are located in Suffolk County, Long Island.

The programs at these two schools are interesting examples of early 'green' education in the high school. Students gain exposure to relevant coursework. Through interaction with industry professionals, they get hands-on experience. This can influence their future studies and may lead them into a career in a green or clean technology industry.

## **About the Green Academies**

### **East Islip**

East Islip High School began its Environmental Green Career Academy Program in 2008-2009. In the years since then, the School has integrated environmental and energy related teachings into six of its senior classes. These classes are: English 12; Pre-Calculus/Business Math; Marine Science; Participation in Government; Business Economics; and Graphic Communication (Tech Ed). All 12<sup>th</sup> grade students can participate.

The focus of the Environmental Green Career Academy is to provide students with a general understanding of environmental issues. The academy hopes to foster student interest in potential careers and/or degree programs in the field of environmental technology, green manufacturing, environmental management, and environmental sciences. ([www.eischools.org](http://www.eischools.org))

Israel Malinowitzer is East Islip's Director of Careers and Student services. He explains that "students are provided with a general, foundational, liberal arts type of experience". Furthermore, "because of different class focuses, teachers will touch on areas applicable to many sectors in the clean tech or clean energy industry". (East Islip)

For example, according to the course description for the Business Economics class, "students will examine the economic factors and impacts of environmental issues." They will "consider alternative approaches toward the achievement of sustainability." This approach will "enable

them to master basic economic principles, while developing a fundamental understanding of local and global environmental issues and their inherent costs in working toward sustainability.” (www.eischools.org)

### **Bridgehampton**

The Green High School Academies program in Bridgehampton High School is now in its fourth year. The program focuses on Sustainable Design in the fields of Architecture, Landscape Architecture and Interior Design.

Classes are open to students in the 8th through 12<sup>th</sup> grade. They include math, science, technology and computer science courses. Bridgehampton also provides stand alone ‘green’ programs through their Environmental Design Academy, which offer classes such as Botany, Introduction to Environmental Design, Advanced Environmental Design, Ecology, and the Geometry of Architecture.

Judiann Carmack, an Environmental Design teacher, coordinates the Green High School Academies program in Bridgehampton High school. She explains the advantages of Green Academies in preparing students for green careers. “Our program exposes students to current industry thinking and practices. Our students have the advantage of knowing the up and coming trends in several green industries, which allows them to choose the direction of their future studies in college or their career choices.”

Ms. Carmack pointed out “the program challenges them (the students). It provides them with an opportunity to make a real and important contribution to society.” Course work is tailored towards local job opportunities and careers. Industries studied include construction, landscaping, food production, architecture and interior design. Students compile a portfolio of projects, which they can either present to a future employer or use when they apply to college.

### **Academic Achievement**

#### **East Islip**

According to Mr. Malinowitzer, the “majority of [students] did much better in 12th grade in the Academy. Some of the results are quite convincing that Career Academy programs definitely help students to learn. They are much more willing to take part in the program and have a better understanding of why education is important.” (From email 7-15-11)

#### **Bridgehampton**

Ms. Carmack emphasizes that, “most of our students have gone on to study architecture, horticulture or sustainable design.” Former students are studying at colleges across New York State. These include: Stony Brook University (Sustainability); the State University of New York at Delhi (Turf Management); Farmingdale State College (Green Building); the State University of

New York College of Environmental Science and Forestry (Landscape Architecture); and the New York Institute of Technology (Architecture). (Bridgehampton)

### **How the Programs work**

#### **East Islip**

The East Islip Green Academy highlights careers in the clean energy field by exposing the students to real life experiences. Students interact with people in the industry, getting hands-on experience. Targeted industries include: solar energy; restoration; energy efficiency practices; transportation; and environmental advocacy.

Mr. Malinowitzer points out “as many as 40 companies are involved with East Islip High School’s Green Academies Program.” These include Paul David Restoration, SUNation Solar Systems, the Sierra Club and Home Performance Technology (HPT) on Long Island.

Companies may mentor students, or have internship programs. This helps students get:

- Basic skills
- Hands-on experience
- Insight into relevant credentials and certifications
- Entrepreneurial skills

For example, HPT instructs students about their work in retrofitting and solar energy, so students can see what it takes to run such a business. A student may even secure a paid internship at a partner company.

#### **Bridgehampton**

The Bridgehampton High School Green Academy also works with industry professionals. The focus at Bridgehampton is on Green Building, Renewable Energy (Solar, Geothermal and Wind), Building Science and Passive Architectural Design. The students have a final project, which is to design and build a one-room ‘sustainable’ dwelling where they will spend a night.

In this project, students work in teams with an industry specialist. Ms. Carmack explains the school is currently trying to arrange internships with local companies. Unfortunately, high school interns often have “transportation and time issues.” In addition, the students may lack industry knowledge or job experience, which can make it “difficult for industry professionals to manage them.”

However, Ms. Carmack stresses that “by assisting in school-based projects, green businesses can cultivate the necessary skills of their future employees, and direct students to study topics or fields that are relevant to our economy and to our environmental needs”. (Bridgehampton)

## **The future of HS Green Academies**

### **East Islip**

To enhance students' overall experience in the Environmental Green Academy Program, East Islip is working to obtain a grant from a national home improvement company. This grant will allow students to build a green home on campus. The home will use energy efficient and green building products. Students and local green businesses will build it together, and the project will serve as a learning lab for students.

In addition, East Islip High School has partnered with Dowling College. Through Dowling, students will be able to earn college credits for certain classes at East Islip. Mr. Malinowitzer reports that participation in the academy appears to be "advantageous for [helping students] get into college, and looks good on their resume". (East Islip)

### **Bridgehampton**

In addition to their existing green program, Bridgehampton will continue to develop new programs that will encourage students to pursue studies in engineering. They plan to introduce an Environmental Science class next year and will also offer an Advanced Placement (AP) class in Environmental Science. (Bridgehampton)

### **Summary**

In both High School Green Academies, students had a very positive experience with these programs. Judiann Carmack from Bridgehampton says, "Students seem to appreciate the relevance associated with these courses. Hands-on learning, with physical outcomes, makes the process of learning tangible and seems to engage students to embrace learning". (Bridgehampton)

Israel Malinowitzer from East Islip shares a similar experience. He states that, "Students are very interested in these classes. Classes are well attended with minimal absenteeism; students are more interactive, engaged, interested and are seeing potential for possible careers. Students are looking five years ahead to what the jobs are, and want to invest in their college education". (East Islip)

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