



**Class of 2004 profile ...**

- 83% earned a Regents diploma
- The class earned over \$1.60 million in college scholarships
- 86 percent of graduates went on to study at four- and two-year colleges and universities
- 68 percent of the class graduated with a four-year overall cumulative average of 80-100. 27 percent were between 90-100

**South Colonie business owners encouraged to get involved in school district budgeting**

Many people think school districts don't care about the financial impact they have on their communities. But that couldn't be further from the truth.

Each year, when a school district develops its annual budget, it is very cognizant of the fact that these spending plans will be rejected by voters if they are not fiscally and educationally sound. The Board of Education is beginning the process of preparing the budget for the 2005-2006 school year. Here is an opportunity for you as a member of the local business community to have a real impact on that process.

A budget calendar has been developed in which specific portions of the budget will be the focus of a presentation before the school board. For a brochure and list of budget presentation dates please call the Communications Office at 869-3576.

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**Preparing today's students in the modern classroom**

**Capital project helps pave the way**

When district residents voted in favor of a \$22.8 million capital improvement project a year ago they made the commitment to ensure South Colonie children have a modern environment in which to learn.

With the continuous advent of new technologies and increased graduation requirements by the New York State Board of Regents students cannot be expected to excel in classrooms designed for their parents or grandparents. In fact, a recent article in *The Business Review* illustrated the challenges facing architects, engineers and construction managers today as they work to design and build schools that meet both the academic and space demands facing educators in the 21st century.

Hands-on science labs and computer stations continue to be the focus, as well as, modern hardware and Internet wiring to integrate new teaching technologies. Libraries are becoming media centers, centralizing information and teacher computers host DVDs, VCRs, CDs and Web access, connecting them to projection devices. There are no more AV carts clogging aisles and no more limited visibility via video monitors.

While a large part of South Colonie's most recent capital project addresses needed infrastructure and system upgrades, plans also call for new classroom space, upgraded science labs and library improvements. All of this modernization, along with capital projects of the past, is helping to keep South Colonie students on the cutting edge of learning, experimenting, reasoning and thinking critically. It's giving them the tools to excel in college and the ever-changing workplace.

**Special Business Edition**



**Sun fuels education**

**Solar energy initiative shines a new light on student learning in the South Colonie School classrooms**

South Colonie students have a new energy about them when it comes to studying math and science these days. That energy is none other than solar power.

The district, and more specifically, Colonie Central High School, is one of just 50 schools in New York State selected to receive funding for the installation of a solar energy system. That system, consisting of solar energy panels and other apparatus, was attached to the roof over the summer and has generated, to date, about 750 kilowatt hours of power – the equivalent to what a typical home would use in a three-month period.

Hardly enough to power a 2,000-student high school, but that's not the point, says Technology teacher Barry Witte. While every drop of the new energy source is being put to use, supplementing the school's electrical power, the bottom line is that it's fueling a new way for students to learn about the earth's resources.

"The program is designed to encourage young people to think about alternative energy sources, to

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## ... Solar energy

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better understand how the systems work and how renewable energy can play a larger role in their futures," Witte explained. "And they're learning about it by seeing it first hand."

A small computer attached to the system on the roof enables students to collect various energy and weather data via the Internet. "If a cloud passes over the school, the data will tell them that," Witte said. They're able to measure energy trends on a weekly or monthly basis, by seasons and compare that data to schools gathering the same information in other regions of the state.

The solar energy system is provided by New York State Energy Research and Development Authority under the School Power ... Naturally program. NYSERDA has also supplied school curriculum to encourage students to learn about alternative energy sources as early as elementary school. At the elementary level, for example, children learn the basics of sun-powered energy in Earth Science from plant growth to hydro power. In middle school, they learn to graph the information they retrieve on their computers. By high school, that information is translated to lessons in chemistry, physics, economics, technology and world politics.

Curriculum plans and other information are available to South Colonie teachers on the web site [www.schoolpowernaturally.com](http://www.schoolpowernaturally.com).

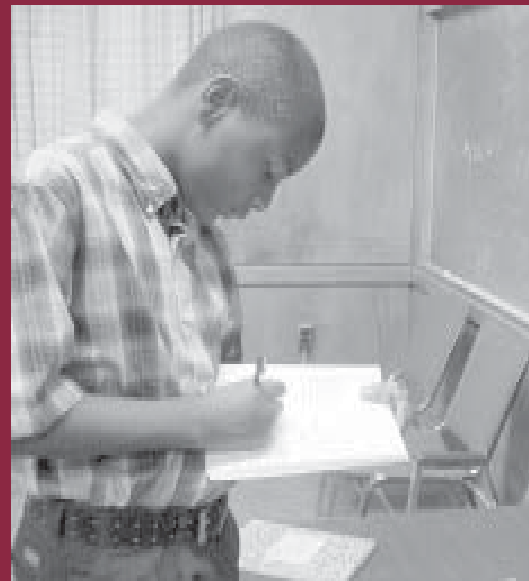
"Many of our students are old enough to see and understand about America's dependency on foreign oil," Witte said. "They hear it on the news, and those who drive, see it at the gas pumps. No one pretends that this is the only solution, but it's part of it, as is wind power, conservation and a host of other strategies."

"What I like about this solar initiative is that it's a fact that students learn better when their not reading it from a book but when they have something they can see, hear and touch," he added. "Being a part of this project is a great opportunity. It's a win-win for everyone."

## Did you know?



South Colonie Schools offer a variety of career fairs at all learning levels — like this Lisha Kill Middle School event — to get students thinking about their futures.



South Colonie students continue learning over the summer like this middle schooler who attended a special camp on forensics, biotechnology, DNA and nanotechnology offered by BOCES/SUNY Tech Valley.

## Helping students excel

If your business has outgrown its computers, monitors, laptops and computer software don't throw it away. The students of the South Colonie Central School District can use it.

The district will gladly accept business donations of computer equipment and software to aid learning inside and outside the classroom. If you have equipment you are no longer using and would like to help our students please contact the District Office at 869-3576.

## District saves on energy costs

The South Colonie Central School District has netted more than \$700,000 in savings since instituting a energy management and conservation program three years ago. The program was implemented through a partnership with Energy Education, Inc., a energy management and consulting firm operating in nearly 500 public school districts.

The program's goal was to implement measures that would avoid wasting utilities like heating, lighting and cooling without interfering with the instructional program. These measures have run the gamut in the schools from turning off lights, computers and computer monitors when not in use to closing classroom blinds at night to seal in energy and reduce heating and cooling costs.

The results: According to Energy Education, Inc., between September, 2001, and November, 2004, South Colonie saved over \$700,000 in energy costs or 19 percent. Those dollars that were being lost through energy waste were able to be recycled back into the district's instructional program.

"That's extremely critical," said district Energy Manager James Brown, "given that educational costs continue to rise each year while our financial resources continue to shrink."

South Colonie's savings in the early months of the program ranked in the top 2 percent of all Energy Education schools nationwide. And perhaps the most exciting part is that by August of 2011, South Colonie is projected to save nearly \$3.4 million as a result of the program.

## Featuring some of our high school's more challenging science & technology courses

### • Project Lead the Way pre-engineering sequence

Project Lead the Way is a national program that forms partnerships among public schools, higher education institutions and the private sector to increase the quantity and quality of engineers and engineer technologists graduating from our nation's colleges. The high school offers a four-year sequence of courses with college credit that introduces students to the scope, rigor and discipline of engineering prior to college. Courses include Design and Drawing for Production, Digital Electronics, Principles of Engineering, Computer Integrated Manufacturing and Engineer Design and Development. Many students choose a sequence that follows one of two paths: Mechanical/Electrical/Civil Engineering or Bio-Medical Engineering.

### • Forensic Science (Crime Scene Investigation)

Right out of the pages of the popular CSI television dramas, this introductory course provides students with the chemical methods of analysis for physical evidence encountered when processing crime scenes. Students are exposed to fingerprinting, forensic toxicology, the chemistry of hairs, fibers and paint; DNA, chemical aspects of arson and explosion investigations, firearms and forensic serology.

### • Biotechnology

This course provides students with experience in several techniques found in laboratories conducting biological-medical research. The science department's own electron microscope provides an extraordinary experience for high school students, essentially not found in colleges.

### • Computer Integrated Manufacturing (CIM)

CIM is a course that applies principles of rapid prototyping, robotics and automation. Students use computer controlled rapid prototyping and CNC equipment to solve problems by constructing actual models of their three-dimensional designs.

### • Digital Electronics

Digital Electronics provides students with an introduction to the devices and controls found in computers and other digital equipment. Students study the application of logic devices (gates, inverters, flip flops and clocks) and Boolean algebra to specific devices. By wiring circuits and making the circuits work, students develop real-life troubleshooting skills necessary to analyze digital systems.

### • Cisco Systems Computer Hardware and Networking

Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands-on activities and labs, students learn how to assemble and configure a computer, install operating systems and software and troubleshoot hardware and software problems. This course helps students prepare for the CompTIA's A+ certification.