

# CTE

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## Building Bridges:

Unique projects prove link between bookwork and real life

By Stephanie Kell

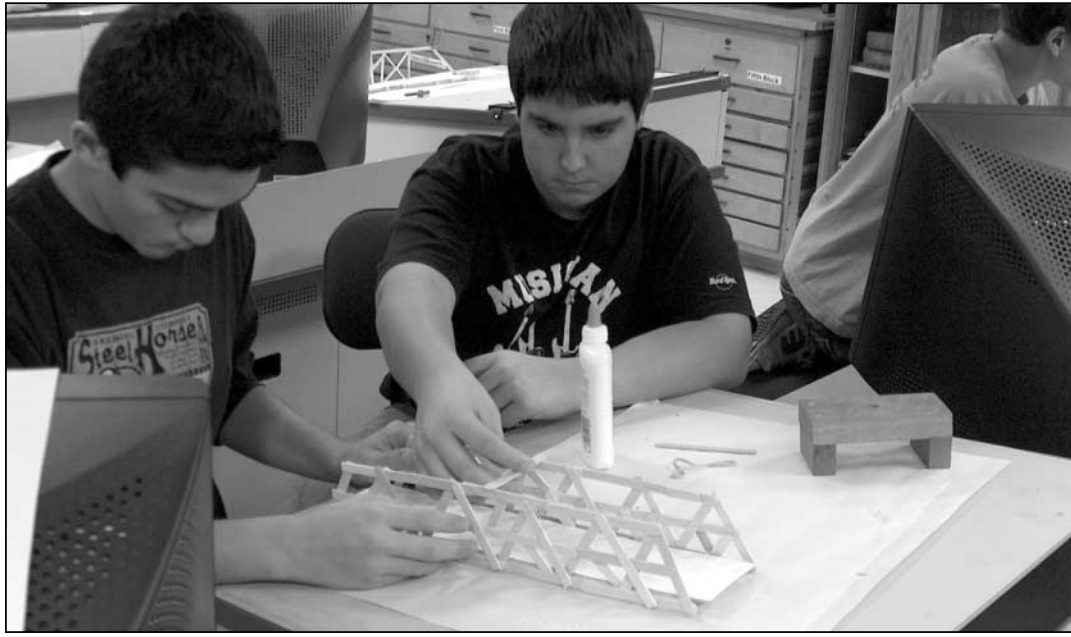
Unless it's the Brooklyn Bridge on the New York skyline, bridges are something we use every day but hardly notice. Behind these structures, however, is their creation, which isn't as easy as you may think, as Gary Gingras' Technology-Education class has learned.

The Tech-Ed class at Lakeview is more than book-and-computer work, though that does play a part. Tech-Ed is also very hands-on, which makes sense in light of one of the reasons the class was created: Many kids today just don't understand how things work.

It's a concept the Tech-Ed's bridge-building project helps them grasp.

The project seems simple. Groups of students use balsa wood, Popsicle sticks, toothpicks, straws and string to build their mini-bridge. In reality, it's much more complicated. First comes the design. The program used to design the bridges was donated by the West Point Military Academy. After a design is approved, each group must draw full-size diagrams before moving on to the actual construction. But it doesn't end there. After all, what's the most important aspect of building a bridge? Making sure it's not a raging death trap.

Once the bridges are completed, they're tested on the SSA 1000 Structural Stress Analyzer to see if they actually work. The Stress Analyzer is a machine that pushes down on the bridge and measures the force needed to break it. After all the bridges are tested, the information is put into an Excel spreadsheet with a formula that combines the weight of the bridge, the load it



can carry and the calculated price of construction to see which bridge was the best. This year's victors received a lunchbox filled with three classic DVDs. The winners were freshmen Phil Pomber, Nicole Seelinger and Drue Griswold.

The assignment can seem unique, or common, if you look at the number of bridges in the world. At least that's a quick reply to the age-old question, "Why do we need to learn this?"

We've got the "why" down, but what about the "what?" What exactly do the students learn from the bridge-building project? Job skills, for one. Learning to use software to examine possibilities and solutions, the judgment to select the best of multiple solutions, teamwork, accuracy, neatness and being a gracious competitor — all skills Gingras believes the project promotes — are helpful in the workforce. The biggest facet, though, is teamwork. "If I were helping a kid with a resume, I

would point out the team-building aspects," said Gingras.

So what kinds of jobs does Tech-Ed promote? Gingras emphasizes that Tech-Ed is an exploratory class, and by exposing students to eight to 10 different career paths and technical clusters they can see what they're interested in and go from there. "This is square one," he said.

"Square one" for many different options, apparently, including civil engineering, machinists, mechanics, robotic technicians, science technicians, the communication industry and construction. But the news gets even better. While outsourcing has had an effect, there is good job potential, Gingras said, for these careers locally. Southeast Michigan has many highly technical jobs. The catch, Gingras said, is talent. "No one will hire somebody mediocre — you have to be one of the best."

Tech-Ed is a class for discovery, and big plans in the field are hardly a pre-requisite.

Some of the lessons from the building bridges project were much more insular.

"I learned what the bridge should be made of, that different parts of the bridge should be made of different materials and that triangles are the strongest shape you can use," said freshman Theresa Dekeyzer.

Another learning experience? Welcome to the world of trial and error. "I started building a bridge, but I made it way too fancy," said Dekeyzer. "It was really hard to build. I had too many small pieces and a lot of Xs. I don't think it would have worked, so I had to start over."

Start over? If you could do it all again, would you take Tech-Ed? It's definitely not a class where you'd have your head buried in a book or glued to a computer screen.

Heck, it might even lead to a lifelong career in engineering or architecture.

Now that's what I call building bridges.

## The way the future runs

Lakeview auto classes provide alternative to traditional horizons

By Martin Dudek

Michigan's auto industry may appear on shaky footing, but the future still looks bright for students with automotive interests.

Students who complete Lakeview's extensive auto curriculum find themselves fully qualified for the job market straight out of high school.

Lakeview offers three official auto classes and an additional independent study for seniors looking to further their education. Each class concentrates on a number of certifiable areas of automotive mechanics. Upon completion of each, students are tested and, if they pass, are fully qualified to work on that particular auto part, even though they remain a high school student. These are the same qualifications that fully trained mechanics have.

Classes are organized in a step-by-step learning-based system. Each class concentrates on different aspects of mechanics. Auto Technology I explores the fundamentals of car mechanics, as well as introduces small engines. Auto Technology II covers basic auto systems as well general maintenance. Students are also certified in steering, brakes and electrical systems. Auto Technology III covers the engine and engine performance as well as manual transmission. Auto Technology IV, the fourth class, (presented as an independent study), looks at heating and air conditioning, auto transmission and advanced engine performance.

The classes "are very technical and are not just for the average person," said teacher James Schneider. "Lots of education is involved past high school, and you're always going back for training."

The beauty of Lakeview's program is that many students can go right into the field post graduation,

though Schneider emphasizes that students should continue on to higher levels of education, suggesting Macomb Community College for those who wish to continue with mechanical courses. Those who do start working straight out of high school can expect to earn \$7 to \$10 an hour.

A co-op program is available in which students can leave school early to work at an auto shop. Seniors Todd Larson and Dustin Goodnight have both taken advantage of this opportunity.

"It's great," Larson said, "I learn through both one on one in the class, and the real-world stuff at work."

Larson is using the opportunity to get a head start, and intends to go to college.

Goodnight is using it as a financial opportunity. While he's not especially interested in continuing mechanics as a profession, "it's good to stick with; if you're going into the field it's a definite plus."

Lakeview also offers an auto club, which usually meets Thursdays. A current project includes fixing up a 1986 Pontiac Firebird for the Milan drag race. For the last eight years the club has been rebuilding a 1937 Ford kick car.

Next Week's CTE Page will feature The Adult Education Center

## Business program offers student variety of classes and real world experience

By Stephanie Kelly

You can rent "Office Space" at Blockbuster. Catch the sitcom "The Office" on Thursday nights. And during any given program at any given time, you're liable to see Capitol One, CareerBuilder.com or any of the other numerous commercials that take place in an office setting.

Why are offices such popular comedy fodder for the media?

Because skewed realism is funny and the business world is a very real — and very prominent — aspect of society. That's why Lakeview High School makes it a significant curricular area.

The business program at Lakeview consists of seven classes and an externship program. The classes: Business and Personal Finance (all grades); Computer Applications I (all grades); Computer Applications II (all grades with Computer Applications I); Office Practice (grades 10-12 with Computer Applications I); Accounting (grades 10-12); Accounting II (grades 10-12 with Accounting I); and Accounting III (grades 11-12 with Accounting II) will be joined by a Marketing class next year.

Computer Applications is taught by all three business teachers at Lakeview this semester: Dan Cheney, Nick Spano and Dean Haratsaris. The class is, in Spano's words, "basically learning to use

Microsoft Office products more efficiently and improve technology literacy."

Computer Applications offers the greatest walk-away benefit. After taking Computer Applications II students are eligible to take the Microsoft Office User Specialist exam. "If you pass" Spano said, "some colleges will excuse a college credit. The test is administered at Macomb Community College."

Business and Personal Finance radiates practicality. Part of the course description reads, "This course offers the student — experiences designed to help them become personally accountable for their own finances."

"You learn finance skills," said Cheney, who teaches the course. "Banking, insurance, taxes, how to get a job."

Cheney also teaches Office Practice, an upper-level class in which students learn all they need to work in an office, including reading office documents, phone skills, faxes and the like. After passing this course students have the opportunity for an externship, a co-op program in which students receive credit for working 15 hours a week with businesses, "or being an office or library aide," Cheney said. If working with a business, students are dismissed from school one hour early to

work in a school-supervised environment compatible with the student's career goals. A final stipulation is required for the program, however: the participating student must take a Career and Technical Education business class at the same time.

The final three business courses at Lakeview, Accounting I, II and III, are taught by Haratsaris. All have the same basic goal: to teach students "how a company works financially," said Haratsaris.

Accounting is not simply for aspiring accountants. Haratsaris emphasized that the knowledge will be useful no matter what field a student enters. "For every company you need to know the financial information, so you'll benefit whether you're a scientist, biologist, engineer," Haratsaris said.

Though the importance of these classes isn't lost, if for no other reason than their stark expediency, it may appear that Computer Applications is the only class that a student can gain something more than a grade from. All three business teachers hope to get their advanced vocationally certified. The Lakeview Computer Applications curriculum is in line with the vocationally approved business classes in other districts.

"(Vocational certification is) a lengthy process with Michigan,"

Spano said. But while the roads to certification may be long for Lakeview's other business courses, Spano hopes Computer Applications will be certified by 2007.

Entering this developing business program is Marketing, a class offered at Lakeview previously. One of the responsibilities of the Marketing class of years past was running the student store. "Lots of students want the student store back," said Spano, "but first it's important to know the background of marketing and understand the theory behind markets: how products are created, advertised and sold rather than just put in a store."

Cheney said Marketing will teach basic concepts, and "hopefully there will be an upper-level class with the student store."

But more than just the student store lies ahead for Marketing. "Usually these credits are considered or accepted by colleges," Spano said. "Hopefully, it will get students certified."

The job market today always has secretarial, office and business positions available. "Demand's always on the rise," Spano said.

With the exception of some secretarial or temp work, however, few jobs are going to be readily available to students without some kind of college education.

"In a greater sense," Spano said, these classes "will hopefully increase students' interest in business and get them to pursue more advanced classes in business and technology."

Ongoing discussions are taking place between Macomb Community College and area districts to create articulation agreements that provide opportunities for college credit through studies in high school.

Spano said since many high schools offer such classes, Lakeview graduates will be at the same level as everyone else after taking the Lakeview business program. Haratsaris believes students will feel more comfortable in the classes because of their prior knowledge, but it won't necessarily give them an edge. Cheney, however, replied, "Yeah, definitely."

Cheney had plenty of points to back up his claim. "You can get an intro-type job right out of high school," he said, "and this would put (students) one step ahead of everyone else."

He added that the skills learned help with the college application process, and all of the business courses at LHS are set up on Blackboard, useful since many colleges use the site as well.

Whether with college, jobs or real life, Lakeview's business program is an excellent starting point

on the road to success.

But that's not all Lakeview brings to the table.

Through the Southeast Macomb Career and Technical Education Consortium, Lakeview has teamed up with four other districts — South Lake, Lake Shore, Roseville and East Detroit — to give students the opportunity to take classes they wouldn't have had the chance to take otherwise. Lakeview students travel to the appropriate school to take classes in any of four areas, including business. Between the four schools, the classes offered are: Business Management Technology I and II; Marketing and Sales I and II; Office Assisting; Retail Merchandising I and II; Retail Merchandising Externship; Cisco Computer Networking I and II; Networking Tech I; and Networking Tech II (including The Wide Area Networks and The Internet and How it Works courses).

After both Cisco classes, students will have the opportunity to write an Industry Standard Certification Exam that would qualify them as a Cisco Certified Network Associate.

On the CareerBuilder.com commercials, the star is frustrated because he works with a bunch of monkeys. With all the opportunities Lakeview offers, he probably wishes he could work with a bunch of Lakeview Huskies instead.

M A K I N G T H E

# connection

to Career Technical Education

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