



## Independent study offers students unique learning opportunities

By Thomas Noonan, Adam Swinehart, and Andrew Montgomery  
CTE Students

The concept of A+ certification is derived from the need for a standardized means of assessing a person's ability to work with computers and their constituent peripherals. Three seniors at Lakeview High School with previous experience in CTE automotive and engineering courses have created their own curriculum in an independent study to attempt to prepare themselves for the A+ certification uniform exams.

The course is supervised by Gary Gingras, who teaches engineering and architectural design courses at Lakeview High School. The course entails a rigorous series of professional level in-text activities related to hardware assembly and analysis. These activities consist of such practices as the disassembling, examination, and reassembly of a standard computer whilst creating an online catalog that lists and details each of the computer's components.

The three seniors are familiarizing themselves with functions and placement of PC parts such as internal cooling systems, peripheral integration cards, memory systems, external I/O devices such as mice and keyboards, and the cable types utilized in the connection of all of these components. Adam Swinehart, Thomas Noonan, and Andrew Montgomery are the sole designers and members of the Computer Science and A+ Certification course. These three aspiring students have gone out of their way to take an interest in their futures and



through their labors are making gains in leaps and bounds.

Adam Swinehart has already been accepted into the Archimedes Class Honors Institute at Michigan Technological University and plans to extend his education to a Masters Degree in Computer Information and Systems Security. Classes will begin for him in the Fall of '09, and in an interview said, "I can't even begin to express how grateful I am for the opportunities I've had at Lakeview. Most people coming into the computer industry haven't had very much prior experience in the field, and this course has allowed my peers and me to prepare ourselves for what may become our future careers." For this student, the A+ Certification Independent Study is proving to be a priceless resource.

Thomas Noonan, who happens to be the captain of the

Lakeview High School Varsity Swim Team, has likewise been accepted to an esteemed institute of his choice, namely Kettering University. Thomas had originally planned to enroll in the Advanced Mechanical Engineering courses at Kettering, but after careful deliberation has decided to put that pursuit on the backburner, shifting his focus onto a degree in either Computer Science or Computer Engineering. He said, "I had originally thought that this course would serve as a more lax elective, but it has proven to be rather difficult. Earlier this week Adam, Andy, and I were reading through an A+ Certification preparatory book, when we came across the term "Computational Alphanumeric Key-Based Digital Data Entry Human Interface Device." It took us a couple of minutes before we realized they were referring to a keyboard. It's the

extravagant stuff like that that makes this class interesting for me. I suppose I like computers too."

Andrew Montgomery, the last member of this group of intellectuals, is planning on attending Ferris State University, and wishes to enroll in the Automotive Mechanics program. Andy is an avid member of Lakeview High School's Quiz Bowl, S.A.D.D., and rugby groups, and is currently enrolled in Lakeview's Advanced Broadcasting and Automotive Repair courses. Andy said, "Being mechanically minded, I always like knowing how things work. I'm constantly striving to figure out how things function. I don't know, it's a hobby of mine. That happens to be the reason I took this course. I just find computers really interesting, and this class allows me to further my knowledge in that area."

## Keeping your accounts straight at Lakeview

Lindsay Hale  
LVHS CTE Instructor

Accounting I, II, and III offers students at Lakeview High School a unique opportunity to explore and learn about a variety of business options for future careers. Accounting I introduces basic principles and practices in an automated accounting setting for small business owners. Not only do students gain specific knowledge and skills that allow them to complete basic accounting tasks, they also learn how to analyze particular business situations with ethical dilemmas.

Accounting II and III take on the next nine chapters in the textbook. Instead of dealing with sole proprietorships, these students deal with everyday accounting tasks for corporations. The basic principles remain the same from Accounting I, but are applied to more advanced scenarios.

So what takes place on a day-to-day basis in Accounting I, II, and III at Lakeview High School? The accounting class is set up to be completely automated because Accounting in the real world is mainly a computerized profession.

The first thing students do when they come into class is sign onto a computer and check Blackboard for their

daily agenda. Blackboard is a widely used program throughout schools that allows teachers to communicate with their students, fellow staff members, administration, and parents. In the accounting class, Blackboard not only gives students their daily tasks, but also contains a discussion board for journals which they are required to complete each day.

After their journals are completed, students access their book notes online and complete activities on Microsoft Excel or Aplia, an accounting website that allows students to submit homework and tests, while receiving immediate feedback. Along with daily homework assignments, the students learn how to complete financial statements for an accounting period by collecting data through Monopoly.

The best part about accounting at Lakeview High School is that the students learn accounting principles that may help them in future endeavors, along with various technological skills and applications. Microsoft Office is an example of a program that is commonly used in the class that will be beneficial to the students throughout their future.

## Student web development sets pace for the future

By Justin Hicks  
CTE Student

Facebook. Google. MSN. MySpace. Wikipedia. Yahoo. YouTube. These are just seven of the millions of sites Americans visit each day, and yet, only a select few understand how these sites were made or how they are run.

At Lakeview High School, students who have showed mastery in Computer Applications I and II are encouraged to take the Website Development Course. In this class, students who enter with only basic knowledge of the World Wide Web will leave with the ability to build their own website or design a website for another organization.

The class starts with a review of the basic parts of a computer, and then moves on to teaching HTML, JavaScript, and the stylesheet that does all the behind-the-scenes work. Through hands-on assignments, students have to comprehend and apply these teachings to produce projects such as a top 10 website, a controversial issue site, and even a personal website.

With this experience under their belt, they are set free to find a local company or organization to build a site for during the third card marking. The student must meet with their client to discuss the site's details, and, from time

to time, to bring them up to speed on the progress. Aside from the help of the client for ideas and information, the student is left to build the site, design and organize it, and then teach their client how to take further action in buying a domain name, which would give the whole world access to their creation.

"Sites are a lot more complex than they look and now that I have the background knowledge, just at a glance, I can tell the different styles and html used to get the desired look," said senior Amanda Shreve after completing the class.

Like Amanda, students who graduate this course will put the days of taking sites for granted behind them. They will notice the little details such as the layout of the site or how the drop down menus are set up, and they might even find themselves checking the source of the page for its code. Ok, so the last one might have been a tiny exaggeration, but the class does give its students a new perspective on the World Wide Web, and possibly a future in website development.

"The class gave me a lot of freedom to express creativity," said senior Tom Martz. "I'm going into a career working with computer security, and I think this class will help me in that field."

## Donations do make a difference in the auto department

Jim Schneider  
LVHS CTE Instructor

Have you ever wondered what it takes to operate a high school automotive program? How do they keep up with changing technology? How can schools afford the needed tools, equipment and vehicles to support their program? At Lakeview High School it's very simple; the love of cars. We constantly have offers from the community to donate a variety of automotive items. Items range from jack stands to complete vehicles. When offers come in, the conversations usually include stories about first cars or experiences from back when they were in school. Everyone has a car story. Lakeview is very fortunate to have the generosity of local business and the surrounding community.

Macomb Community College is one of our biggest supporters. Over the years they have donated engines, transmissions and many cars and trucks. They are even will-



ing to loan us special tools we need for those one time critical repairs. To show their support even more, they have two open house hot dog nights for automotive students and instructors. During these events, students and instructors tour the facilities while enjoying some free food prepared by the automotive department. They are awesome.

The people from the community are always thinking about Lakeview Automotive Technology. People love to drop off tools, equipment and complete cars they no longer are using. A few weeks ago we received a call from Robert Ortmann, a parent of a current Lakeview student, who wished to donate a 1996 Chevrolet Caprice their family no longer needed. This was a drivable vehicle with very little rust or damage. Auto II students have already put this



vehicle to good use completing brake and braking system tasks. This is the type of support that makes a good program.

Henry Ford Community college recently donated a 2003 F-150 pick-up truck. Students are amazed to see that the truck only had 29 miles on the odometer. This truck is basically brand new. Students have an easier time completing their tasks without fighting rust and corrosion from older vehicles. They also get the chance to see newer systems and components keeping them up with changing technology.

Workhorse Custom Chassis donated a working Duramax diesel chassis this year. This is Lakeview's first diesel powered vehicle for the shop. Diesel powered vehicles are very popular today Students will have the chance to test



and diagnose engine performance concerns. The chassis was delivered with all the software and electronic service information to guide students through tasks efficiently.

Wolverine Lawn Equipment donated 30 small engines this year for Auto I students to disassemble and learn the internal workings of the four-cycle engine. Freshman students really enjoy this type of get your hands dirty learning. Without the engines, students would be stuck learning from the pages in a textbook.

Hands-on instruction encourages students to want to learn. To all of our current and past supporters, Lakeview Automotive Technology would like to say, Thank You. Your help and support is priceless. If anyone would like to contact us call, 585-455-4045 ext 2736 or jschneider@scslakeview-k12.com.

The next CTE page will feature Chippewa Valley

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**Connection**



For more information about CTE at the high school level contact the Macomb Intermediate School District. Contact Macomb Community College for college level programs. See contact information above.



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