

Amateur Radio and Public Education Make for a Bright Future

Integrating Amateur Radio into a Kentucky high school's curriculum has produced enthusiastic science students.

Robert Gulley, AK3Q

Dixie Heights High School in Northern Kentucky has done something in their science department — they have combined science and Amateur Radio training to produce newly licensed Technician class operators. Not only have they raised the awareness of students and faculty concerning Amateur Radio, but they have stirred up student interest in the sciences.

The program is the brainchild of Jim Hicks, WB4CTX, a former college professor who changed careers to reach high school students with the wonders of science. Jim has combined his passion for science, teaching and Amateur Radio in a unique way that shows students that science can be practical in everyday life. Many of the students cite their teacher's excitement and passion as one of the best things about the class. They also say Mr Hicks has a way of bringing many different aspects of science into his discussions about radio and electronics, which makes the material practical.

A Visionary Principal

The program would not have been possible without the complete and enthusiastic support of the school's principal, Kim Banta. As soon as Jim brought the concept for the program to her, Principal Banta got behind the idea completely, arranging funding from the school to purchase radio equipment and antennas.

The class is offered for credit as an elective under the Science, Technology, Engineering and Mathematics School of Study, part of the Physical Sciences core content requirement. Part of the goal for the program is to find innovative ways of stimulating student interest in the Sciences and in Engineering.

Interest in the class is extremely high among students, especially as word gets around about some of the class activities. In addition to making regular radio contacts, the students are getting hands-on equipment building experience,

having built their own dipole antenna and having assembled a Titan DX antenna as a class project. While Jim oversees the activities, the students do all the actual work, something they find particularly rewarding.

Far from just an easy elective, Radio Technology 1 as the class is called, covers math, science, history, culture and, of course, radio theory. Because Amateur Radio is such a diverse activity, there is a lot of material from which to draw, making the class one of the most relevant electives offered at the school.



Instructor Jim Hicks, WB4CTX, whose Radio Theory 1 class has become an extremely popular elective in the Dixie Heights High School.

A Club is Born

The class has produced enough licensed operators that the Dixie Heights High School Amateur Radio Club, KY4DH, was started. While Jim Hicks provides faculty oversight, it is a student run organization all the way. Central to the success of the new club is an enthusiastic young man named Cory

Clark, KJ4AOC, the outgoing president of the club. In addition to helping organize the club, Cory also helped with the club's QSL card and his people skills have helped to promote the club among the other students. While most of the club members are licensed, the club is open to all interested parties.

Official Recognition

The Dixie Heights High School ARC became an affiliated ARRL club in March of 2008 and a ceremony was held at the end of May with ARRL Great Lakes Division Vice Director Gary Johnston, KI4LA, and Kentucky Section Manager James Brooks, KY4Z, in attendance. The ceremony acknowledged the new club's affiliation, as well as recognizing its members' unique accomplishments in the classroom.

Testing and a Prize!

Several groups lent their support to the school club, donating time and financial

resources to help with testing, club organization and support. Robert Kluck, N4IJS, of the Northern Kentucky ARC, K4CO, is a trustee and provided invaluable support in starting the club and for testing services. Having become interested in Amateur Radio at about the same age as these students, Robert is passionate about passing along the excitement of Amateur Radio to the next generation.

Several ARRL Volunteer Examiners (VEs) from the Northern Kentucky club, along with several other volunteers, officiated as 20-plus students took the exam as the final course requirement. The Kentucky District 7 Amateur Radio Emergency Team, KY7ET, donated a brand new handheld radio to the top student of the class, presented by Lynn Ernst, WD8JAW. Competition for the radio was tough as two students were in a dead heat going into the exam. One point was all that determined the winner of the radio. Top honors went to Chris Stetter, KJ4END, a graduating senior.

Student Interest

I interviewed Chris about his experience in class and as a newly licensed operator. Chris, 17, said his interest in the class was connected to his interest in math and science. Chris plans to get his General license and looks forward to learning more about electronics, as well as building antennas and working DX. He is also interested in emergency services and SKYWARN programs. Chris is the first



With KY4DH President Cory Clark, KJ4AOC, looking on, Gary Johnston, KI4LA, reads the letter confirming the club's affiliation with the ARRL.



Top honors student Chris Stetter, KJ4END, receives a new Yaesu VX-170 radio from Lynn Ernst, WD8JAW, representing the Kentucky District 7 Amateur Radio Emergency Team, KY7ET.

person in his family to get an amateur license. Interestingly, Chris said his grandmother was into CB quite heavily, even having a shop that sold radio equipment.

Ian Gibson, Chris Overpeck and Zach Westbrook each spoke with me about their class experiences and about their newfound interest in ham radio. Both Ian and Zach pointed to the science of radio and its related fields as being what interested them most about the class. Chris noted that he originally took the class to fill an elective requirement, but said he was surprised to find he really liked the class. Through lectures and hands-on demonstrations they were able to experience Amateur Radio up close, and that made all the difference.

Ian said he was interested in working the upcoming Field Day with K4CO, as well as training for emergency services and weather spotting. He also expressed an interest in foxhunting and learning about the technology behind it.

Both Chris and Zach said that they liked the idea of reliable communications for which ham radio is well known and Chris noted that ham radio was not a fad like so many other technological advances. Zach added that he wanted to be “a part of the solution” when it came to disaster relief and emergency communications, including working on developing power supply solutions for field work.



Kentucky Section Manager James Brooks, KY4Z, shares his passion for Amateur Radio with the class.

What impressed me the most about these students was their general level of excitement for the hobby. As a college professor who is used to seeing a lot of apathy in high school graduates, it was refreshing to see the sparks of interest in their eyes as they took their tests and talked about their classroom experiences. While not all of the class passed their Technician exams on the first try (70% did pass), there was a great sense of accomplishment by all and a great sense of pride expressed by Mr Hicks for his students. Clearly the class had formed a special bond through their shared experiences.

An Experienced Mentor

As the class instructor, Jim Hicks has a wealth of experience upon which to draw, having been a ham operator for over 30 years as well as being the Assistant Kentucky Section Manager during the late '90s. Jim has been a chemistry teacher for 34 years, most of those as a college professor, but now as an Honors Physics and Chemistry teacher for the Dixie Heights High School.

Jim's stepdaughter Rachel, KJ4ENI, who took the class and has her Technician license, is now working as an emergency and disaster relief volunteer. Jim is, of course, proud as he can be of her and he enjoys sharing her interest in Amateur Radio and emergency services.

As for the future, Jim hopes to be able to work the International Space Station with the class, making it a project that can involve the whole school. He also hopes that the Dixie Heights High School program can become both an example and an encouragement for other schools across the country in stirring up interest in science and engineering.

Tinkering to Tomorrow

As we all know, many scientists and engineers became interested in their field because of experiences they had at an early age, especially tinkering with radios and listening to the “magic waves.” Amateur Radio offers such a wide variety of opportunities for learning excitement that it is a perfect vehicle to that end. Who knows how many of Jim's students will go on to study science or engineering further because of the experiences they received in his class. From the students I talked with and the excitement I felt from them, one thing is certain: they will never look at radio and communications in the same way again!

For those of you involved in public or private education who would like to start a similar program in your school, Jim is happy to share his experiences with you and answer any questions you might have. You can reach Jim at jim.hicks@kenton.kyschools.us.

All photos by the author.

Robert Gulley, AK3Q, passed both his Technician and General tests in 2007, upgraded to Extra in May of 2008 and is an ARRL Volunteer

Learn More About Teaching Radio

School teachers interested in incorporating Amateur Radio into their curriculum, using it as an enrichment program or as a club activity are welcome to apply for a grant under ARRL's Education & Technology Program.

The ARRL Education & Technology Program offers an educationally sound curriculum focused on wireless communications, which emphasizes integration of technology, math, science, geography, writing, speaking and social responsibility within a global society. The ARRL Education & Technology Program has provided grants of station equipment, instructional resources or opportunities for professional development to more than 300 schools all across the US. Learn more about the resources available — including the professional development workshop, the Teachers Institute on Wireless Technology — and review the grant application at www.arrrl.org/etp.

*Examiner. He spends most of his time on HF, but also ragchews on VHF and UHF. He is a member of the Northern Kentucky Amateur Radio Club (NKARC) and is active in the Kentucky District 7 Amateur Radio Emergency Team, KY7ET. Robert is experimenting with a 20 meter Delta Loop antenna of his own and a TAK-tenna 80 as part of his Army MARS activity. When not operating, Robert is an adjunct professor at two local colleges and a retired minister. He also writes a regular magazine column and teaches classes for beginning wood turners. He can be reached at 266 Ward Ave, Bellevue, KY 41073, ak3q@arrrl.net. **QST+***

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Strays

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