

# Transit authority

## NiMo chief surveyor helps math students see straight and far

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Recorder News Staff

Fourteen juniors and seniors at Broadalbin High School moved their math class outdoors for several days last week to get a better angle on a role geometry plays in life.

The students, each with at least three years of Regents high school math, were treated to a four-part mini-course in surveying taught by an authority on the subject.

The program was "just a stroke of luck for the district," said secondary math teacher Richard Litwa. "One teacher's friend happened to be the surveyor and the Outdoor Club was looking to develop a nature trail behind the school. It was the art teacher's idea to involve the students on this level and it worked out very well."

The authority is Robert J. MacFarlane, chief surveyor of the Eastern Division of Niagara Mohawk Power Corp., and he and the company volunteered his time to the district to teach the course.

In the first two sessions, students worked with MacFarlane in the classroom to learn some fundamentals of surveying and develop the problems they would be solving. The final sessions were spent outdoors applying what they learned.

The students used their math background to learn how to find linear distances, angles for marker bearings and areas of tracts of land. They also were instructed in the use of surveying equipment, and they will survey portions of the high school property this week.

High School Principal Robert C. Munn said the course will show the students something practical that they can take with them to college or use elsewhere in life.

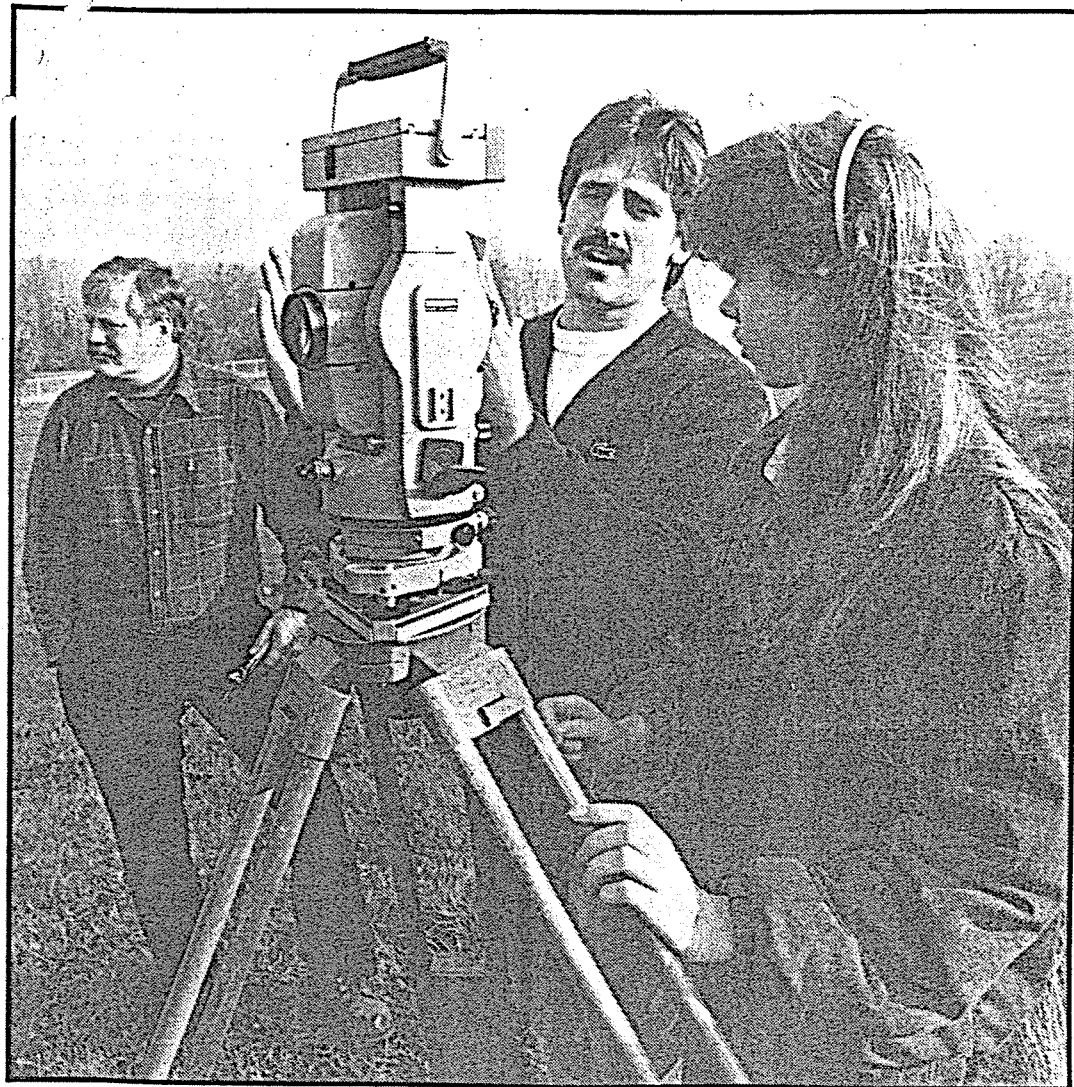
The class, though not for credit, is part of the Math 12 curriculum, Munn said.

MacFarlane has developed the program to relate to the students' practical application of equipment, a subject that in the past had been an unrelated school requirement.

Junior Robert Becker, 16, said the course was tough. He said NiMo supplied all the equipment for the class and the hands-on experience was helpful.

"The best part was working outside and solving the problems," Becker said. "The students really got a lot out of it. My favorite was learning how to measure the distance between two points without using measuring tape."

Senior Jim Zayicek, 17, said he enjoyed using the prisms and tripods. "I really liked measuring



Recorder photo: Mitch Wojnarowicz

Shelly Conklin, right, a senior at Broadalbin High School, listens as Todd MacFarlane, center, explains how to use an electronic distance measuring device. MacFarlane and his father, Robert, a chief surveyor with Niagara Mohawk, taught a four-part course on surveying to 14 junior and senior math 12 students.

the horizontal and vertical angles and slopes both with the machines and with math. I was lost a couple times, but we all tried to help each other out."

He added that he has been interested in surveying for some time and this gave him the opportunity to see what it was like. "Now I think it's something I would want to pursue in college," he said.

Others in the class include Sterling Auty, Barb Bernadt, Shelly Conklin, Jenny Dzek, Terri Frier, Dean Neri, Pat Reidy, Andy Crispin, Floyd Dingman, Mike Loveless, Laura Terrian and Jon

Mound.

Although it is unlikely surveying will be taught as part of the regular curriculum, Litwa said he understands MacFarlane will return this spring to continue the mini-course.

MacFarlane has been a licensed and registered surveyor since 1968 and is a member of the Eastern New York Association of Professional Surveyors and the New York State Association of Professional Land Surveyors.

He has been chief surveyor for NiMo's Eastern Division since 1981. He owns a surveying firm in Ballston Spa.