



***For a Total Solution to all of your  
Materials Testing Needs***

---

**New ADMET Machine Updates Rhodes State College Engineering Lab**  
*Rhodes State College of Lima, Ohio provides technical educational programs to satisfy the employment demands of area businesses, industries and agencies. It is the region's leading workforce development trainer, providing more than 2,100 specialized training courses to 18,000 employees in the past five years.*

*The College, with over 3,300 students, offers associates degree and certificate programs in nursing, allied health, arts & sciences, business/public services, and information and engineering technology. It offers practical training in all of its subject areas. In the mechanical engineering technology department, students receive hands-on training on several industrial machines, including universal testing machines for tensile and compression testing. Recently, Rhodes State purchased a new universal testing machine from ADMET in order to incorporate the latest technology into its curriculum.*

---

Rhodes State College serves ten counties in the Lima, Ohio area by providing regional industries with skilled technicians. One of its major academic divisions, the Division of Information Technology and Engineering Technology, has a reputation for graduating associates degree-level technicians who have become a major resource for area manufacturers and machine shops.

The Engineering Technology Department seeks to combine classroom instruction with hands-on training on the equipment that is being used by the students' potential employers. The Department offers courses in Concrete, Manufacturing, Mechanical Design and Mechanical Engineering Technologies, to name a few.

The Mechanical Engineering Technology curriculum includes courses in Electronic Engineering Technology and Mechanical Engineering Technology that teach students about robots, computerized numerical control machines, automated warehousing systems and flexible manufacturing networks.

The Department's lab includes Rockwell and Burnell hardness testing machines, a Charpy impact machine, and tensile, compression and fatigue machines for materials testing. Also included are materials preparation equipment and microscopes for viewing materials at the microscopic level.

As with any educational institution, it is a challenge to keep equipment current on a limited budget. Roger Newhouse, Chair of the Mechanical Engineering Technology Department, faced this reality when he replaced a '70's-era 600,000 lb Unitech universal testing machine.

"The old machine was not worn out, but it was analog and had no control over the speed of the force. We needed to expose the students to newer, digital equipment. A few years ago we bought a load cell and extensometer that we connected to a computer, but the machine is still out of date," he explained.

### **Search for a replacement**

Newhouse asked Lab Technician, Jack Hill, to find a replacement. Hill researched machines on the Internet and sent email inquiries. Commenting on the process, Newhouse remarked, "Quite frankly, most companies were not too interested in getting back in touch with us. The nice thing about ADMET is that they treated us respectfully."

Hill and Newhouse ultimately received two quotes. "We had a very limited budget and ADMET came in very favorably price-wise. ADMET's package was also very inclusive with the fixturing – everything we needed was there," said Newhouse.

---

## **SOLUTION OVERVIEW**

**Industry:** Education

**ADMET Product:** eXpert 2613 with MTESTWindows  
Materials Testing System

**Customer:** Rhodes State College

**Application:** Training engineering students

They ordered a 10,000 lb ADMET eXpert 2613 tabletop machine equipped with MTESTWindows Materials Testing System software. Since Newhouse already had an extensometer, he sent it to ADMET along with the computer that they would be using. "They set up the machine and loaded everything on our computer. We have been very happy with the service," he said.

Hill and Newhouse were able to set up and run the system on their own before the ADMET tech arrived to check on the installation.

## State-of-the-art training

The new ADMET machine is now used in Materials and Mechanical Engineering Technology classes by civil, manufacturing, mechanical and quality students to conduct tensile and compression (beam) testing. Teams of two or three students test aluminum, brass, steel or other materials using 6mm threaded samples for the tensile tests.

Newhouse said, "Usually, I'll have the different teams pick different materials. We discuss the differences [in the materials and test results] when they turn in their lab reports."

Some tests are done on the old machine so students can compare both procedure and test results. "There are still old machines out there in local industries, so they have to understand that they may run into this type of machinery. We like to teach them on state-of-the-art, but seeing the old machine presents a very valuable learning experience," he explained.

MTESTWindows is at the other end of the technical spectrum since it automatically calculates and reports test results. Yet, Newhouse requires that students do their own

calculations in order to maximize the instructional value of the labs.

Although Newhouse would like to put the machine's computer on the network so students could save the data to their network drive, test results and raw data are currently printed to an Adobe PDF file for downloading to students' flash drives.

Students input their data to an Excel spreadsheet to calculate and compare their findings to the MTEST results. Students also have to plot their own stress/strain curve. "I

won't accept any handwritten reports. It all has to be on software and spreadsheets," said Newhouse.

Newhouse coaches the teams on how to program MTEST and select the correct MTEST test reports. "MTEST has a huge pull-down of preloaded tests. I let them choose whatever they want. Some of them pick a lot of stuff that they don't need. Then, when they try to calculate it on their own, they say, 'I didn't need that'. It's the best way for them to learn," he said

The new ADMET machine has also been used to help a local manufacturer evaluate its raw materials. Although the findings were

not conclusive, the tests did justify further examination in an industrial lab.

Newhouse considers the new universal testing machine an important addition to the curriculum since machine shops in the area want students to be trained on the equipment that they will see in the workplace.

It's good for ADMET too. "Someday, these students will be purchasing this type of equipment and they will remember what they worked on here at the College," concluded Newhouse.



---

## For more information

For more information about ADMET products or services, please call us at 800-667-3220 or 781-769-0850, email [sales@admet.com](mailto:sales@admet.com) or visit our Web site at <http://www.admet.com>.

For additional information on Rhodes State College Engineering Technology programs, visit <http://www.rhodesstate.edu>, call Roger Newhouse at 419-995-8139, or email [newhouse.r@rhodesstate.edu](mailto:newhouse.r@rhodesstate.edu).

All brands and product names are the trademarks of their respective owners.