

Ian Miller, Head of Resources and Assistant Director at Otley Agricultural and Horticultural College in Suffolk, provides an insight into new learning techniques.



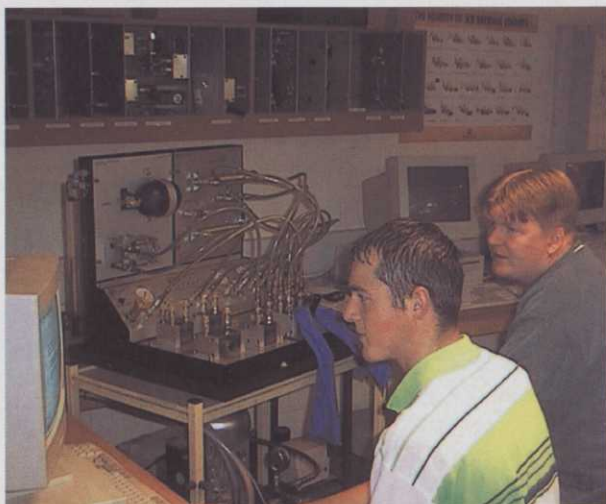
Learning CURVES



Right: Students working on the electro-hydraulics board

Much of the machinery and equipment used to maintain a golf course is of a high capital value and is required to work over long periods of time. Training, accurate and rapid fault diagnosis and repair are essential to ensure that it continues to operate to full capacity providing the optimum return for the course manager.

Three years ago Otley Agricultural & Horticultural College was facing a dilemma. Our engineering workshop, built in the late 60s was outdated in design, uninsulated, and was an inadequate size for the demands of today's modern engineering requirements especially when it came to modern turf care machines. I am sure this is a familiar story.



This page: Top: Faults being inserted into one of the systems on the Jackobsen LF3400

Above: Understanding hydraulics is crucial on modern turf care equipment. Here students are troubleshooting a possible fault

Next page: Top: A student diagnosing a problem in an ignition system using one of the simulator boards

and construction of modern motor vehicles, computer diagnostics and engine management systems to name only two. This has led to a requirement for new skills within the industry and a requirement for not only training new entrants into the industry but also upskilling the existing staff to use this technology.

It is only a matter of time before turf care machines adopt similar systems. It is with this in mind the college's project team have equipped the Centre. In March of 1998 David Blunkett released £90 million funding for Centres of Excellence.

Otley put in a bid and, with support from companies such as Textron Turf Care, were successful in winning £460,000 to equip this technology and learning centre. There is not only a need to train the technicians but also the operators. Much of the equipment now used to maintain a golf course is of a high capital value and is required to work over long periods of time.

The idealists view would be to have no downtime, but this is not yet achievable. However it can be much reduced by good training, accurate and rapid fault diagnosis and repair. A point not to be missed by Textron, the local manufacturer of Ransomes and Jacobsen grounds care equipment. Textron were the centre's first commercial customer, and has readily embraced the new teaching methods and regularly sends its dealer staff on training courses at Otley.

The hands on approach has gone down well with both the firm and the dealership staff. They find the ability to work at their own pace is rewarding and less frustrating than

Two main options were available: To run down and eventually close the engineering facility or to invest heavily in new facilities and equipment in preparation for the new millennium.

The latter was the decision made by the College. The initial requirement was to construct a brand new engineering workshop with teaching accommodation totalling some 1400m².

The Felix Thornley Cobbold Trust supported this both financially and in planning. This amounted to a total cost of some £500,000 and was completed by July 1998. The second requirement was to furnish the centre with state of the art equipment and teaching facilities. This was to include new methods of teaching and learning. The formation of an engineering employers' forum helped to steer the college in the right direction in order to train technicians and operators with new skills for the next century.

The forum highlighted the fact that technology would play a more crucial part in machine operating systems and fault diagnosis in the next decade and beyond.

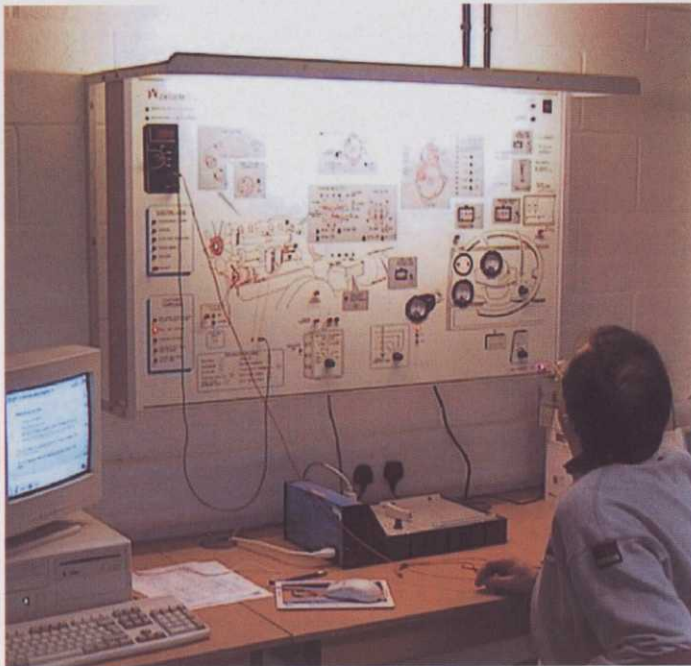
Experience of the automotive industry has shown that an ever-increasing amount of technology is being used within the development

PHOTOCAST TEE SIGNS

By
EAGLE PROMOTIONS

Scorecards • Course Measurement • Yardage Books • Tee Signs • Event Boards • Leaderboards • Notice Boards • Bag Tags • Green Fee Tickets • Call Philip McInley on : 01883 344244

Call Philip McInley on 01883 344244



more traditional teaching methods. "They are a real boon and allow students to get on with their work at their own pace, retrace their steps if they do not understand something and test themselves as they go along," said Richard Clarke, a sports turf lecturer at Otley College, said of the computer-based learning packages.

The computer system is networked allowing the lecturer to test and monitor the student's progress. The system is also extremely versatile. A complete beginner could be on one computer learning the basics of the four-stroke engine cycle, while at the other end of the room a highly skilled technician could be fault diagnosing an alternator circuit using an oscilloscope.

All around the walls are boards that show the wiring and layout of a range of equipment circuits. Students learn how these circuits are made up and use wires to link the components. Also, with the help of instructions on the computer, students are taught fault finding routines using a circuit tester to find where potential problems lie.

Here they learn the fundamentals before being let loose on real equipment - including one of Textron's Jacobsen LF3400 fairway mowers. There is simply not the space here to list the entire range of teaching equipment in the new centre. This in itself says a lot about what is on offer.

The system starts by using the latest teaching aids to instruct students about the real basics using self-learning programmes. Here the computers are tools used for nothing other than teaching, using graphics to really

help explain how things work. Next the computers are linked to the boards with the computer programme providing instructions for students to follow. Here the computers are not only teaching the students, but monitoring their actions.

The next stage is diagnostics and faultfinding. Here the lecturer can place a number of faults on the board and, via the computer, follow every action the student takes in finding the fault.

Not only can the facility be used by technicians but also by operators to ensure maintenance and basic faults can be diagnosed. This will be the focus of the training seminar available at the BTME 2000 in January. This seminar is being run by Textron Turf Care and supported by Otley College.

Summary

A report from Mike Roberts of Profi magazine stated, Otley Centre of Excellence's facilities are, frankly, almost unbelievable. Cast aside any pre-conceived ideas of what a college lab, workshop or classroom used to look like - you are way off. Indeed, we have never seen such advanced teaching equipment before - even at the headquarters of the multinational machinery makers.

Modern machinery demands well-trained and highly skilled mechanics to support it, and Otley has the equipment to teach them.

Let's hope this is just the start of the long-overdue revolution needed to bring machinery support staff up to date with the equipment they are repairing and servicing.

