Tools for teaching science

Video disc programmes, slide presentations and teaching microscopes are all part of this week's review of science teaching aids.

THE Cy-Scan cytology training system from E. Leitz Instruments Ltd was designed to help histopathology and cytology laboratories cope with training new personnel to accommodate the

increased workload of cervical screening (Reader Service No. 101). The £30,000 (UK) Cy-Scan laboratory training system consists of a computer connected to an X-Y coordinate readout unit fitted to a normal Leitz microscope. The integrated software and hardware allow the trainee to scan slides previously checked by a qualified screener and have their results automatically checked against those of the qualified screener or pathologist. It can also be used as a quality control system to check examples from the routine daily work of the laboratory.

ISCO, Inc. offers a video disc programme entitled *Biotechnology: Learning the Techniques* that provides step-by-step instruction on 33 protocols commonly used in the biotechnology laboratory (Reader Service No. 102). The \$995 (US) self-paced **biotechnology video disc tutorial** includes a detailed manual. It shows beginners how to do procedures right the first time, and provides the means for experienced workers to improve and standardize their techniques. The laser video disc format provides instant location and replay of any lesson. Programmes can

A video disc for learning biotechniques.

be viewed clearly at regular speed or in slow motion, and can be frozen for a closer view. Among the topics included are: ligation, plasmid isolation, restriction analysis, mouse immunization, ELISA, purification of monoclonal antibodies, affinity chromatography, SDS polyacrylamide gel electrophoresis, and Western blots.

Zeiss has a new dual-observation **teaching stereomicroscope** with continuously variable 1:8 zoom magnification (Reader Service No. 103). Zeiss says the \$15,350 (US) model SV8 is ideal for training and instruction in colleges and workshops, exacting repair work, and the observation and photodocumentation of microscopic specimens. The Zeiss microscope offers identical observation conditions and a

Two heads are better than one with the Zeiss microscope.

25 mm field of view to both observers, who sit side-by-side, spaced 60 cm apart. Stability is ensured by the stand assembly, which has a 640 mm-high column with counterweight. The microscope has a photographable light pointer which can be rotated 360° and moved over the entire field of view. Three objectives are provided: a standard 100 mm objective, a DS 100 mm dual objective that converts the microscope to a Greenough-type stereomicroscope, and a flatfield 100 mm objective for viewing low-profile objects.

Savant's extensive line of audiovisual training packages has been expanded to include a **programme on UV-visible spectroscopy** (Reader Service No. 104). The 36-minute programme, entitled *An Introduction to Ultraviolet-Visible Spectroscopy*, comes in a slide presentation format for \$265 (US), and a video format for \$540 (US). The basics discussed in the introductory programme include: fundamental properties and characteristics of electromagnetic radiation; wavelength, frequency and energy relationships; the absorption process; energy-level dia-

Savant's tutorial on UV-visible spectroscopy. grams; chromophores; conjugation; auxochromes; spectral shifts; and pH and solvent effects. In the quantitative section, the principles of Beer's Law are developed, and an actual quantitative experiment illustrates how an unknown concentration is determined. Instrumentation is reviewed in a generic fashion, covering sources, monochromators, detectors and readout devices.

GOW-MAC Instrument Company offers a 5-hour **audio course on gas chromatography** entitled *Basic Gas Chromatography* (Reader Service No. 105). A 218-page course manual is included with the six audio cassettes, and the entire package costs \$400 (US). The course covers the basic principles required to understand and improve GC separations, methods of selecting proper equipment, operating parameters for good separation results, and the latest developments in columns, instrumentation and analysis.

Science Media, a division of J. Huley Associates, Inc., is offering a set of three slide-tape presentations on the **interpretation of NMR spectra** (Reader Service No. 106). Two programmes are devoted to proton absorbance, covering simple splitting to more complex spin-spin splitting patterns. The third programme describes ¹³C chemical shifts, the shielding constant and factors influencing its magnitude, and the subject of assignment techniques. The educational and training programmes were developed as a reference and quick refresher for the professional chemist, a learning tool for the student, and a means to broaden the skills of the laboratory technician. The \$150 (US) slide presentation course is also available on videotape for \$295 (US). □

These notes are compiled by Carol Ezzell from information provided by the manufacturers. To obtain further details about these products, use the reader service card bound inside the journal. Prices quoted are sometimes nominal and apply only within the country indicated.