

# Classroom Technology Reviews

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Department Editor

## MICROBIOLOGY

### **Interactive Microbiology Multimedia Courseware (CD-ROM)**

**An Electronic Companion to Beginning Microbiology.** By John Ingraham. CD-ROM and Workbook (324 pp).

**An Electronic Companion to Microbiology for Majors.** By Mark Wheelis. CD-ROM and Workbook (185 pp).

Cogito Learning Media, Inc. (235 Montgomery St., San Francisco, CA 94104), 1-800-938-4465, [www.cogitomedia.com](http://www.cogitomedia.com). 1997. Price \$149 each.

### SYSTEM REQUIREMENTS

#### Windows

- IBM PC compatibles running MS-Windows 3.1 or higher
- 486 processor or higher
- 8 or more MB of RAM
- With Windows 95, 12 MB or more of RAM

#### Macintosh

- LC 475 or other model with a 040 processor or higher running System 7.1 or later
- 8 or more MB of RAM
- 12 MB of RAM required for PowerPCs.



Many students are entranced with the CD-ROM ancillaries that now accompany the written textbooks, and some use the screened version of the text in prefer-

ence to the printed page. In this **Cogito** production, the student can have the best of both possible worlds. The **Beginning Microbiology** package contains not only an electronic disk but is augmented with an excellently compiled print workbook.

The 20 topics covered follow the format of traditional microbiology texts commencing with the subject's historical underpinnings and continuing with microbial metabolism, genetics, classification, then culminating with microbial pathogenesis and host defenses. Other pertinent themes are also dealt with. Each topic window enables the viewer to select specific divisions within the major heading. Clearly legible explanatory text along with appropriate diagrams or illustrations expand on the subject. These screens are enriched with moving graphics to display molecular movements and other action mechanics. Quicktime movies enhance such phenomena as phagocytosis, phage infection, microbial growth and movement. Some of the graphics are accompanied by spoken descriptions such as those microbial pathogens that infect different systems of the human body. In illustrating the three stages of translation, the verbal accompaniment to the visual graphic dance along the ribosomal components is especially illuminating.

Manipulating the program requires no instruction, it is self-explanatory; and moving from section to section takes place within an eye-blink. From the topics button, any subject can be selected. The user can run through the program at his/her own speed, and there is a test yourself part for each topic. Questions are accompanied with diagrams and/or illustrations in the multiple choice format and hints are cleverly elicited with incorrect selections. An option button enables opening a search feature, entering bookmarks, recording notes, printing a screen, and finally calling for help. Highlighted terms within the text portion readily access to a glossary for rapid clarification. As to the content, it is clearly and concisely presented at the level that meets the needs of a beginning student.

Matching the electronic content is a workbook that is congruent in content. Easily readable, the accompanying paperback is formatted to attract the student to the content. Each topic chapter opens with the objectives clearly listed as 'THINGS TO KNOW', followed by cleverly structured questions with answers that elucidate the topic points. Simple but clear diagrams, tables and illustrations recapitulate the content within the more than 300 pages. Each chapter is capped with a variety of self-testing questions.

This program can serve as a self-study curriculum for introductory microbiology as well as, a complement to most Introductory Microbiology texts. It is a very comprehensive, satisfying and enjoyable educational product.

There is an electronic version of **Microbiology for Majors** that contains fewer topics than the introductory edition. While greater detail is allotted to the chemical reactions in metabolism and the user is assumed to have a chemistry background, topics such as microbial diseases, host defenses, microbial pathogenesis, and microbial behavior are ignored. The contents are covered primarily with text, graphics, some animations and a few videos. This program might serve as a quick review companion for the major student, rather than an independent curriculum program. The features of the program parallel those described above, and again I can only reiterate that the operational maneuverability of this disk is superb. The accompanying workbook makes less satisfying reading than the beginning version, since the chapter for each topic contains only a cursory two- to three-page summary of the chapter heading. Most of each section is filled with review questions, posed in a variety of formats, calculated to challenge the student. The last third of this short paperback contains the answers to the self-testing questions.

These two programs are described as 'unique multimedia' study guides. True, they contain some videos, a few animations, excellent graphics and illustrations along with easy-to-read text with easy access to all parts.

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Unfortunately, the composers did a lazy job of incorporating sound with the design. Students learn through different sensory modes; verbal reinforcement of many of the text figures and graphics would greatly augment the reception of this material. In its delivery of a few sporadic, though excellent, sound bites, it seems as if these were inserted as afterthoughts. I found the introductory program better planned than the advanced version: the first can stand on its own, while the latter might assist students as a supplement to material that is already recorded more expansively in a textbook.

## NUTRITION

### *Interactive Nutrition Multimedia Courseware (CD-ROM)*

**An Electronic Companion to Essential Nutrition.** By Paul M. Insel. CD-ROM and Workbook (264 pp). 1999.

**An Electronic Companion to Complete Nutrition.** By Paul M. Insel. CD-ROM and Workbook (272 pp). 1998.

Cogito Learning Media, Inc. (235 Montgomery St., San Francisco, CA 94104), 1-800-938-4465, [www.cogitomedia.com](http://www.cogitomedia.com). Price \$149 each.

### SYSTEM REQUIREMENTS

#### Windows

- IBM PC compatibles running MS-Windows 3.1 or higher with a 486 processor or higher
- 8 or more MB of RAM
- With Windows 95, 12 MB or more of RAM
- 2X CD-ROM
- Sound card + speaker recommended

#### Macintosh

- LC 475 or other model with a 040 processor or higher running System 7.1 or later

- 8 or more MB of RAM
- 12 MB of RAM required for PowerPCs



With the implementation of the Healthy Peoples Initiative, the U.S. Public Health Service has undertaken an educational campaign to endorse a healthful lifestyle for Americans. Daily the public is bombarded with prescriptions deemed to promote more wholesome life behaviors. The emphasis has primarily been aimed at improving our food intake. Thus it is important that understanding about nutrition become a significant part of our awareness.

In both the **Essential Nutrition** and the **Complete Nutrition** packets, topics similar to those covered in standard textbooks are included. Approximately a dozen segments covering the six basic nutrients along with energy/weight control, eating disorders, life-cycle nutrition, diet and health, nutrition assessment, and food safety are built into the self-learn curricula. Manipulation of the screens and access to materials on the CD-ROMs is marvelously facile and fast. The operations are self-explanatory. The opening screen allows you to enter either a review section designating the chapter heading or the test section. Each chapter enables the viewer to select the particular part to be investigated. The options button opens features such as Search, Bookmarks, Notes, Print Screen, Index, Help and Exit. The test portion has a nice assemblage of true/false, fill-in, and multiple choice questions along with hints to assist those needing support.

What makes each content section so delightful is that the software is indeed interactive! The graphics provide delightful animation; illustrations are eye-catching; several of the windows invite input by requesting manipulation of some of the graphic figures, thus giving the viewer a sense of involvement; the audio component is appropriate; and at times the sound bites

are pleasantly arousing. The quick time movies add relevance to content, while the true story accounts personalize the described disorders. Visually and aurally, this is a well-conceived interactive program.

Both CD-ROMs contain essentially the same electronic programs. The **Complete Nutrition** version contains its own appendix section which does a good job of reviewing basic chemistry along with a chapter covering metabolism, while **Essential Nutrition** has parts dealing with food safety and diet planning which are lacking in the advanced edition.

The work-study books accompanying the computer-ware follow the same format. Corresponding to the electronic sections, each chapter contains a brief (5 to 6 pages), but cogent summary with diagrams and tables, covering the significant aspects of the topic. The bulk of each chapter then follows with a variety of self-testing questions trailed by connections that expand on the question. The complete workbook has just an additional bit of chemistry, and the questions may be somewhat more challenging.

Each of these programs is user friendly and can be employed for independent learning at both the high school, adult and undergraduate levels. It can be used as supplementary material for health and biology classes; certainly either of these programs will richly complement a regular nutrition course. These exemplary curricula allow the viewer to tailor the learning to individual needs and present a delightful diet of balanced nutritional information. In fact, the dietary guidelines that espouse Variety, Balance and Moderation (VBM) are highlighted here.

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