

PREFACE

Developed for use in an undergraduate microbiology laboratory course, *Laboratory Exercises in Microbiology* meets the needs of students majoring in diverse programs such as allied health or biological sciences. The manual contains a variety of interactive activities and experiments that teach students the basic concepts of microbiology and support the content covered during lectures.

APPROACH AND ORGANIZATION

We are firmly committed to the idea that a microbiology laboratory — and the manual used for it — should extend the learning experience for students, and not be a repeat or reproduction of lecture material. With this in mind we made every effort to avoid duplicating text and illustrations that will be found in their lecture text. We have minimized the amount of textual material for students to read at the start of the laboratory period. Rather, labs are introduced in a clear and concise manner and maintain a student friendly tone. This leaves plenty of time for students to engage in activities and experiments that promote a deeper understanding of microbiological concepts and principles, to answer questions and to write up lab reports.

The 25 Exercises are divided into five Parts: General Microscopy and Aseptic Technique; Microbial Morphology, Differential Stains; Microbial Control and Biochemistry; Medical Microbiology; and Food and Environmental Microbiology. A Photographic Atlas of sixty-eight full-color plates depicting laboratory techniques and results, and numerous micrographs is included.

LABORATORY FEATURES

The self-contained laboratory exercises in this manual are all designed to maximize the learning opportunity and time spent during each laboratory period. Each Exercise begins with a clearly defined list of **Objectives**, followed by a **Materials List** needed to complete the lab. **Procedures** and **Results** sections within each lab are easily identified. Included within lab exercises are a variety of activities like **Art Labeling**, **Coloring**, **Identification Exercises** and **Critical Thinking Questions** that help summarize the concepts covered in the lab. An inventory list that allows students to double check their work is also a feature of most exercises.

Immediately following each Exercise is a **Laboratory Report** that can be completed and turned in to an instructor. Included in the lab reports are a mix of **Fill-in-the-blank**, **Matching** and **Multiple Choice Questions**. At the end is a glossary of **Working Definitions and Terms** that provide a quick review and reinforcement for students as they complete the reports.

SUPPORTING MATERIALS

A Companion Website for instructors complements the use of this manual. It includes the following:

- Laboratory Materials List and Suggestions
- Reagents and Stain Formulations
- Media Formulations
- Suggested Sequencing of laboratories for Health Science students and for non-Health Science students.

- An Answer Key to the questions from the laboratory reports.

The supporting website can be accessed at www.wiley.com/college/pollack

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We invite all readers and users of this manual to send any comments and suggestions to us so that we can include them in planning for future editions.

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