

# Biotechnology

## A LABORATORY COURSE

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*Biotechnology: A Laboratory Course* integrates basic molecular biology and protein biochemistry through a series of experiments with a common theme. The course is designed to provide students with experience in and understanding of selected methods, techniques, and instrumentation in modern biotechnology. A continuum is established by using two principal organisms: the bacterium *Escherichia coli* and the yeast *Saccharomyces cerevisiae*. In addition, this course focuses on a single plasmid and a single enzyme for demonstrating various biotechnological manipulations. This text should serve as an excellent aid in the establishment or instruction of an introductory laboratory course in biotechnology.

### Key Features

- Detailed explanations and step-by-step protocols suited for introductory laboratory instruction in molecular biology
- Integration of recombinant DNA, microbial physiology, and biochemical analysis techniques
- A continuum of experiments utilizing *E. coli* and *S. cerevisiae* as host organisms for various biotechnological manipulations
- Guidelines and appendixes designed to facilitate proper laboratory technique and to provide useful information to both the student and instructor
- Glossary
- Use of nonradioactive materials and easy access to microbial cultures
- Experiments student tested for three years
- Minimum amount of reagents, supplies, and equipment required for successful implementation of the laboratory course

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