VISUALIZING
Human Biology
Lab Manual

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Visualizing Human Biology Lab Manual engages students by focusing on the structure and function of each person’s own unique body. Step-by-step visual guides are provided so that students can successfully complete each experiment in a timely manner. Visuals are used to teach and explain, not just illustrate, and readers with varied learning styles will be engaged. The applications of common laboratory techniques in science, medicine, and everyday life are also explored in each lab topic.

Visualizing Human Biology Lab Manual:

• Uses the unique Visualizing the Lab feature to provide Step by Step instructions and photos to help students successfully complete each lab
• Includes a comprehensive Preparation Guide with teaching tips, supply lists, supplier listings, and instructor support on the Instructor Companion site (www.wiley.com/college/ellie)
• Encourages students to grasp the big picture by relating each lab activity to real life conditions and their own connections to Biology
• Provides increased opportunities for critical thinking through the Active Learning Questions, Introductions, Exercises and Review Questions included in each of the 18 labs
• Can be used with any Human Biology text, but mirrors the table of contents of Visualizing Human Biology and key visuals from the text are used where appropriate
• Closer Look At boxes delve into the practical applications of the experiments performed in lab
• Gross anatomy activities include color photographs of anatomical models, in addition to color photographs of human organs for the accompanying review questions
• Case studies on disorders are provided in each organ system lab
• Histology activities include color photomicrographs to help students identify key structures
• URLs are provided within each lab to reliable sources of health information on the Internet

INTRODUCTION

This lab manual is devoted to the diverse population of students who are taking introductory courses on human biology. For some students, this course will serve as their only exposure to the natural sciences at a higher learning institution. For others, this course will serve as a stepping stone into the health professions or the natural sciences. As educators, we strive to meet the needs of our diverse student populations, particularly when students with varying career goals enroll in the same course. To meet the needs of diverse student populations, core biological concepts are addressed from the following perspectives:
• The perspective of a well-rounded citizen who understands the practical applications of controlled research studies and common laboratory techniques in the biological sciences.

• The perspective of a student who is learning basic medical terminology, as well as the principles behind common diagnostic exams.

• The perspective of a burgeoning health profession major who is getting ready to embark on rigorous coursework in his or her area of specialty.

Throughout the manual, students are exposed to the practical applications of the activities they perform during lab. As a result, students can easily relate the importance of key topics to their own lives, regardless of differences in chosen majors and career paths.

For more information, visit: www.wiley.com/college/ellie

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Dedication

This book is dedicated to my students – past, present, and future – who make the time we spend together in the classroom such a valuable, interactive experience. You remind me how challenging it can be to learn the biological concepts for the first time, and you allow me to grow as an instructor as I strive to help you grow academically.

About the Author

Jennifer Ellie was born and raised in Wichita, Kansas, where she happily lives and works to this day. She obtained her BS in Biological Sciences from Wichita State University with an emphasis in Biochemistry. Following several years of work as a laboratory technician, Jennifer decided to pursue an MS in Biological Sciences. As a graduate teaching assistant, she quickly realized that her passion lies in the area of science education. Currently, she coordinates laboratory courses for the biology department at Wichita State University, where she also instructs Human Biology courses.
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