

**A LABORATORY GUIDE FOR
HISTOLOGY: LABORATORY
OUTLINES FOR THE STUDY OF
HISTOLOGY AND MICROSCOPIC
ANATOMY**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649042760

A Laboratory Guide for Histology: Laboratory Outlines for the Study of Histology and Microscopic Anatomy by Irving Hardesty & Adelebert Watts Lee

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

IRVING HARDESTY & ADELEBERT WATTS LEE

**A LABORATORY GUIDE FOR
HISTOLOGY: LABORATORY
OUTLINES FOR THE STUDY OF
HISTOLOGY AND
MICROSCOPIC ANATOMY**

To Dr. W. B. Sewall
with the regards of
Irony Hardisty

LABORATORY GUIDE FOR HISTOLOGY

HARDESTY

COPYRIGHT, 1908, BY P. BLAKISTON'S SON & CO.

*Printed by
The Maple Press
York, Pa.*

THE LIBRARY

25
908

PREFACE.

THE purpose of this little book is economy of time and labor for both the Instructor and Student. It is a common experience in our Anatomical Laboratories that the student taking courses in Histology and Microscopic Organology spends a large part of his time in doing things which are not essential to the accomplishment of the actual purpose of the courses. He wastes time in vague application of histological technic which is involved in neither the title nor the real purport of the work. He proceeds to study a subject without a definite concept of what is best to be done and how best to go about it, and without forethought of economic distribution and use of his time. He will begin a drawing from a preparation without having first decided what special features the drawing should most advisably illustrate, without having thought out the amount of magnification and the style of drawing most suited to the purpose. The too frequent consequence is that the time allotted to a course is so poorly utilized that the student actually covers a far smaller portion of the ground purported to be the object of the course than he may be led to cover if guided in a more definite manner as to what to do and how to proceed.

This Laboratory Guide, therefore, is offered to the student and instructor with the hope that it will be an aid toward the accomplishment of a greater amount of that work which may be correctly designated The Study of Histology and Microscopic Anatomy, and an aid, further, toward an improvement in the quality of that work. On the other hand, it is not intended that it shall, in any way, lessen the tendency to nor decrease the amount of independent work on the part of the student as regards all the essential features of his studies. Rather, the suggestion and stimulation of independent thought has been kept in mind throughout the construction of the guide.

The Outlines as here given embody what the author has used with his classes during the past six years. Corrected and revised from year to year, they have heretofore been issued to the student in mimeographed form and, in their revision, restriction has been more and more made to those studies deemed most essential and to the amount of work which experience has shown that the average class in Histology may be induced to cover in the allotted time.

As offered by the author, the entire work has required the equivalent of three three-hour periods per week throughout one school year. The time has been so arranged as to offer the work in three courses: (1) Histology proper; (2) Microscopic Anatomy of the Organs, exclusive of the Central Nervous System and Sense-Organs; (3) The Central Nervous System and

v

57519

Organs of Special Sense. In medical schools, the third course is more advisedly given to students in the second year when they are more mature from experiences in other courses and capable of more rapid and intelligent accomplishment. Unfortunately, some of the schools in which it is hoped this Laboratory Guide will be used do not devote to the work as many hours as are necessary to the amount of work outlined here. In such cases, if the time cannot be increased, it will be necessary, of course, that the instructor read ahead of his class and direct that such paragraphs as he deems less essential be omitted. It should be remembered, however, that certain of the time called for here is devoted to studies of the detailed gross anatomy of the organs, not only for the value of such studies *per se*, but in order to bridge that too common gap between Gross and Microscopic Anatomy, and that, therefore, the whole time is not demanded for purely microscopic structures. Especially is this true of the portion dealing with the central nervous system, which portion is intended to comprise the only study made by the student of the gross anatomy of this system.

It is a common experience that the student's laboratory drawings in Histology are a matter of troublesome as well important necessity. In order that the student, so often wholly unskilled in drawing, may obtain some idea of the simpler principles involved in graphic art, Dr. A. W. Lee has kindly prepared a chapter on laboratory drawing. This Laboratory Guide is especially fortunate in its incorporation of this chapter, for it is a subject in which systematic instruction is very seldom given, and not only is Dr. Lee himself an artist of marked ability, but he has given considerable study to this variety of drawing. The chapter involves directions as to equipment and for such procedures and processes as are considered most essential for the student in the laboratory. The original drawings illustrating the chapter are purposely reproduced here without reduction that they may be more instructive as to the direct effects the student may accomplish in his laboratory drawings.

Berkeley, California, August, 1908.

I. H.

CONTENTS.

Laboratory Drawing	1
Outlines for Laboratory Work	30
Introductory Exercises	43
The Tissues	47
Epithelium	47
The Supporting and Connective Tissues	51
Blood and Lymph	59
The Muscular Tissues	67
The Nervous Tissues	71
The Circulatory System	76
The Digestive Apparatus	89
The Respiratory Apparatus	103
The Urino-Genital System	106
The Central Nervous System.	119
The Organs of Special Sense.	160
The Methods of Preparation Employed	179
INDEX.	191

