

**BLAKISTON'S SCIENCE
SERIES, PHYSICAL
MEASUREMENTS**

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Blakiston's Science Series, Physical measurements by A. Wilmer Duff & Arthur W. Ewell

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A. WILMER DUFF & ARTHUR W. EWELL

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BLAKISTON'S SCIENCE SERIES

PHYSICAL
MEASUREMENTS

BY

A. WILMER DUFF

PROFESSOR OF PHYSICS IN THE WORCESTER POLYTECHNIC INSTITUTE

AND

ARTHUR W. EWELL

PROFESSOR OF PHYSICS IN THE WORCESTER POLYTECHNIC INSTITUTE

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WITH 78 ILLUSTRATIONS

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PREFACE.

Our intention in writing this book was not to give an account of physical laboratory methods in general, but to describe a limited number of carefully chosen exercises such as we have found in our experience to be suitable for the laboratory work of students who have had a fair course in General College Physics.

The descriptions of the exercises will usually fit apparatus and conditions of considerable diversity, but many practical details have been included where experience has shown that they are necessary. Other instructors who may adopt the book will probably find some of the exercises unsuited to their classes, but the list is sufficiently extensive to afford a considerable variety of selection.

The descriptions of apparatus are intended to be read by the student with the apparatus before him. Hence elaborate illustrations have been thought unnecessary. For an extended account of certain special topics, such as the theory of the balance and the construction of galvanometers, references to other works have been given.

Usually several text-books and special treatises have been referred to at the beginning of the account of an experiment. It is assumed that each student will have one of the text-books and that some of the special works will be found in the reference room of the laboratory. While the reference is generally to the latest edition (at the present date, 1910), those who have different editions will have no difficulty in finding the passages referred to. Each instructor who uses

the book will exercise his discretion as to what preliminary reading will be required and will issue the necessary instructions to his class.

We are indebted to Dr. Albert W. Hull for assistance in reading the page proof. Many of the tables have been taken from Ewell's Physical Chemistry.

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