

# **CHEMICAL LECTURE NOTES**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649426089

Chemical Lecture Notes by H. M. Whelpley

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](http://www.triestepublishing.com)

**H. M. WHELPLEY**

**CHEMICAL  
LECTURE NOTES**



# CHEMICAL LECTURE NOTES.

TAKEN FROM PROF. C. O. CURTMAN'S LECTURES  
AT THE ST. LOUIS COLLEGE OF  
PHARMACY.

BY

*Emply. Hon*  
H. M. WHELPLEY, M. D., Ph. G., F. R. M. S.

PROFESSOR OF MICROSCOPY AND QUIN MASTER OF PHARMACOLOGY AND BOTANY  
IN THE ST. LOUIS COLLEGE OF PHARMACY, PROFESSOR OF PHYSIOLOGY  
AND HISTOLOGY AND DIRECTOR OF THE HISTOLOGICAL LABOR-  
ATORY IN THE MISSOURI MEDICAL COLLEGE, ETC.

---

FOURTH EDITION.

WITH OVER ONE HUNDRED ILLUSTRATIONS.

---

ST. LOUIS, MO.  
PUBLISHED BY THE AUTHOR.  
232 ALMON PLACE.  
1895.

Entered according to act of Congress, in the year 1892, by

H. M. WHELPLEY,

in the office of the Librarian of Congress, at Washington.

ALL RIGHTS RESERVED.

01-14-2007

## PREFACE TO FIRST EDITION.

The student who takes careful notes of the lectures, and refers to them repeatedly while studying, is sure to gain a better understanding of the subject than the same person could have done without the aid of notes. When first engaged in conducting the Quiz Class in Chemistry at the St. Louis College of Pharmacy, I took notes of the lectures for the purpose of having the review follow closely after the instruction. In 1884 Professor Curtman entirely rewrote his lecture notes, so as to embody in them a variety of information, gathered from scientific journals and other available sources, not readily accessible to the student, and to form a complete syllabus of the subjects taught. These notes I obtained permission to copy for use with the Quiz Class, and for publication in the columns of the *National Druggist*, of which I had then become editor.

In the department of "Chemical Physics" I have supplied various paragraphs from other sources than these notes, and have prefixed in many places letters and figures, to give a systematic arrangement where the professor had given only an enumeration of subjects by suggestive words, to remind him of facts or illustrative experiments to be brought before the class.

In the chapters on "Metalloids" I have closely followed Professor Curtman's notes, supplying from time to time a sentence to make clearer the meaning of words and formulæ, plain or dissected, which, while sufficient as a memorandum for the teacher, would, without explanation, appear obscure to the student.

The notes have been published in this form more especially for students of pharmaceutical and medical colleges. I believe, however, that they will prove of assistance to all who

desire to study Chemistry or refresh their memory on the subject.

The illustrations are supplied entirely by me, and will recall many class experiments to students, and, together with the various memoranda introduced, furnish interesting information that has been gathered from various sources. Considerable pains have been taken in the pages on Chemistry to display such important subjects as symbol or formula, atomic or molecular weight, etc., immediately following the name of each element, and of the more important compounds. The explanation of the construction of formulæ by means of dissection, which has been carried out in the notes, is a prominent feature of Professor Curtman's lectures.

The index is sufficiently complete to enable the reader to refer to any of the compounds mentioned in the work.

H. M. WHELPLEY.

St. Louis, Mo., December 1, 1886.



## PREFACE TO SECOND EDITION.

---

The benefit that students have derived from the first edition of this work, and the demand made by druggists and physicians in general, has induced me to revise the volume, and add Professor Curtman's Notes on the Meta's. This has increased the size of the book about seventy pages, and completes the Notes up to the Lectures on Organic Chemistry.

The index has been thoroughly revised, in conformity with the new matter added.

H. M. WHELPLEY.

St. Louis, Mo., October 1, 1888.

---

## PREFACE TO THIRD EDITION.

---

The new edition of this work is substantially the same as the preceding one. The duties of a busy life have prevented me from preparing and adding the Notes on Organic Chemistry as originally intended.

The favorable reception given the first and second editions and the demand for more copies has induced me to have the present edition published.

H. M. WHELPLEY.

St. Louis, Mo., April 1, 1890.

## PREFACE TO FOURTH EDITION.

---

The continual demand for this work has induced me to supply a new edition.

I trust the introduction of the Metric System Tables and a List of Latin and Greek Numerals will render the volume more serviceable to the Pharmaceutical and Medical Professions.

H. M. WHELPLEY.

St. Louis, Mo., December, 1892.

# CHEMICAL LECTURE NOTES.

---

## INTRODUCTION.

---

### I. DIFFICULTIES SUPPOSED TO EXIST IN THE STUDY OF CHEMISTRY.

1. *Misapprehension in regard to the extent of study by medical men or by pharmacists.*
2. *Frequent abuse of the word "practical," as opposed to "theoretical," by men ignorant of their profession, or too indolent to keep up their studies.*

Chemistry is one of the foundation stones upon which both practical medicine and successful pharmacy depend, and its importance is continually growing.

### II. THE REAL DIFFICULTIES IN THE WAY OF THE STUDY OF CHEMISTRY.

*Wrong-methods of study.*

*Memorizing formulæ from text-books; illustrations that do not illustrate.*

*Want of perception of practical applications, etc.*

*Lack of interest by students unless they handle chemicals and apparatus themselves.*

Importance of laboratory work, both for acquaintance with material and training in practical methods, and for better understanding of accompanying lectures.

### III. PLAN OF SUBDIVISIONS OF LECTURES IN COURSE.

1. *Chemical physics.*
2. *Chemistry of metalloids.*
3. *Chemistry of metals.*
4. *Organic compounds.*

### IV. NECESSITY OF STUDY OF CHEMICAL PHYSICS.

1. *Former and present relations of natural philosophy and chemistry.*
2. *Formerly quite distinct departments; line easily drawn; now much common territory.*