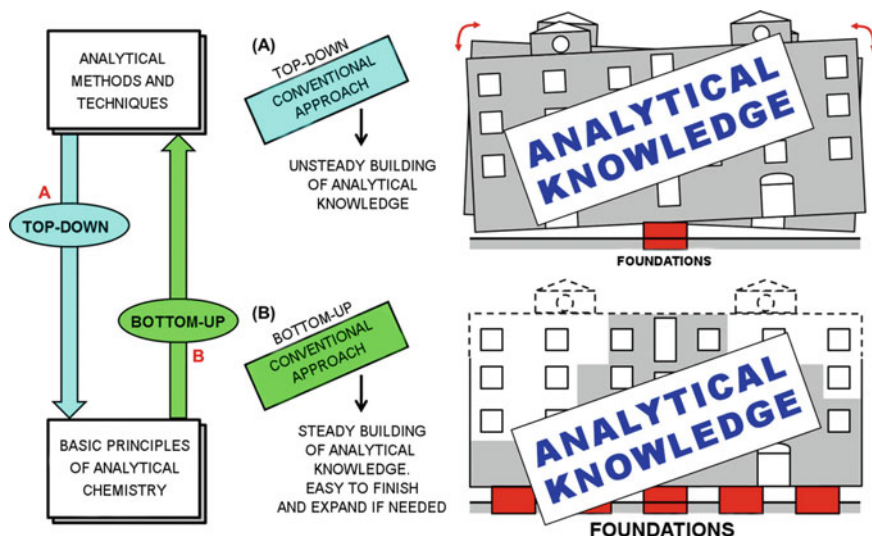


Preface

The authors were compelled to write this book by two main “drivers.” One was their wish to further endorse the strategic significance of the true fundamentals of Analytical Chemistry in order to help students first approaching this discipline to understand them and to erect their “analytical chemical building” on solid foundations.



Two opposite approaches to the teaching and learning of Analytical Chemistry in undergraduate curricula. The traditional, top-down approach, which goes from descriptions to fundamentals, leads to an unsteady building and to abilities prevailing over attitudes. On the other hand, the bottom-up approach, which is used in this book, goes from fundamentals to the description of methods and techniques in order to construct a solid, steady building that can be completed with further analytical chemical subjects

The twofold primary aim of this book is to have students acquire a truthful image of Analytical Chemistry in order to develop abilities and attitudes that are consistent with the essence of the discipline, and to provide a firm background for addressing

other analytical chemical subjects (e.g., analytical separation systems, instrumental analysis).

Rather than to prepare the typical lectures for delivery in the classroom, this book requires teachers to contextualize concepts, emphasize especially relevant notions, support their messages with examples, and respond to students' questions. This novel teaching approach certainly calls for some changes in lecturers' traditional role.

The authors' second "driver" for writing this book was their commitment to teaching innovation in a subject that is initially difficult to understand. For this reason, the book contains a large collection of animated PowerPoint slides that are individually explained with text and illustrated with many examples testifying to the roles of Analytical Chemistry in today's world. This new teaching approach is expected to change the minds of those students who might initially be reluctant to be taught slide-driven lessons.

Because of its unusual teaching–learning standpoint, the preliminary sections of the book have been expanded with a technical introduction and a brief guideline for efficient use.

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