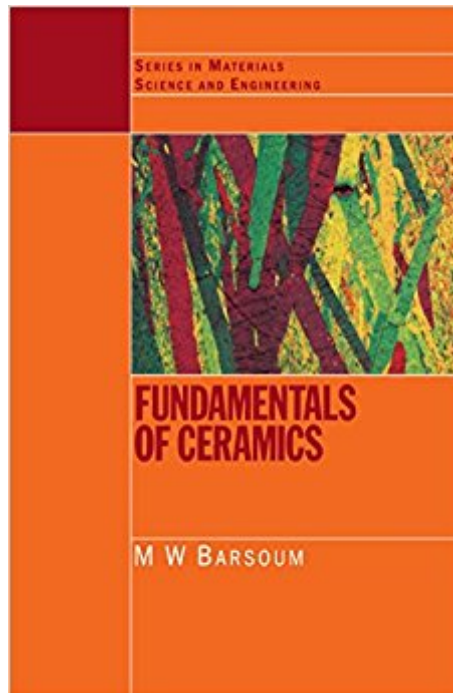


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# Fundamentals Of Ceramics (Series In Materials Science And Engineering)



## Synopsis

Updated and improved, this revised edition of Michel Barsoum's classic text *Fundamentals of Ceramics* presents readers with an exceptionally clear and comprehensive introduction to ceramic science. Barsoum offers introductory coverage of ceramics, their structures, and properties, with a distinct emphasis on solid state physics and chemistry. Key equations are derived from first principles to ensure a thorough understanding of the concepts involved. The book divides naturally into two parts. Chapters 1 to 9 consider bonding in ceramics and their resultant physical structures, and the electrical, thermal, and other properties that are dependent on bonding type. The second part (Chapters 11 to 16) deals with those factors that are determined by microstructure, such as fracture and fatigue, and thermal, dielectric, magnetic, and optical properties. Linking the two sections is Chapter 10, which describes sintering, grain growth, and the development of microstructure. *Fundamentals of Ceramics* is ideally suited to senior undergraduate and graduate students of materials science and engineering and related subjects.

## Book Information

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## Customer Reviews

This text is very clearly written, and an absolute must as a reference for the fundamentals of

ceramics. The text ties basic principles of physics to the structure and behavior of ceramics. The text is ideal for late undergrad, early graduate studies - and is also perfect for scientists and engineers without a background in Materials Engineering \*because\* it draws on basic physics to clearly cover the topic. Especially useful are the numerous examples within the chapters to highlight important ideas, and the last six chapters - which give important information on electrical, optical, and mechanical properties of ceramics.

Dr. Barsoum has covered all the bases in this well thought out and beautifully organized book! The author makes the field of ceramics interesting even to people new to the field. This book was used in a course I took, and I will not sell it because it is such an authoritative reference source. There are no other books that compare to Fundamentals of Ceramics.

I bought this book for an introduction class to ceramics. The book is ok, but it has different sections that are not clear. It is the section of the Young's module. It was not a matter of not being able to understand the material of that section, it is simply not clear. Two of the instructors that I know worked with this book were confused too regarding the given explanations. All the other sections are fine, and it does help you to learn about ceramics.

Excellent textbook, no prior knowledge of ceramics required.

Awful book. would not recommend

Barsoum's text, "Fundamentals of Ceramics", is the best theoretical treatment of materials science that I am familiar with. He provides in-depth coverage of many mat-sci principles and derivations, from the elementary to the advanced. Caveat emptor, however, as there are also many mistakes in this book. Barsoum would do a great service to the mat-sci community by updating this text and publishing a new edition that corrects the mistakes and provides a more thorough explanation of experimental principles to complement his theoretical information.

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