Fundamentals Of Fire Phenomena
Understanding fire dynamics and combustion is essential in fire safety engineering and in fire science curricula. Engineers and students involved in fire protection, safety and investigation need to know and predict how fire behaves to be able to implement adequate safety measures and hazard analyses. Fire phenomena encompass everything about the scientific principles behind fire behavior. Combining the principles of chemistry, physics, heat and mass transfer, and fluid dynamics necessary to understand the fundamentals of fire phenomena, this book integrates the subject into a clear discipline: Covers thermochemistry including mixtures and chemical reactions; Introduces combustion to the fire protection student; Discusses premixed flames and spontaneous ignition; Presents conservation laws for control volumes, including the effects of fire; Describes the theoretical bases for empirical aspects of the subject of fire; Analyses ignition of liquids and the importance of evaporation including heat and mass transfer; Features the stages of fire in compartments, and the role of scale modeling in fire. Fundamentals of Fire Phenomena is an invaluable reference tool for practising engineers in any aspect of safety or forensic analysis. Fire safety officers, safety practitioners and safety consultants will also find it an excellent resource. In addition, this is a must-have book for senior engineering students and postgraduates studying fire protection and fire aspects of combustion.

Book Information

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Customer Reviews

This was one of the required texts in a fire dynamics course. I repeatedly had to go to other resources to gain an understanding of the material. I have undergraduate and graduate degrees in
engineering, including graduate coursework in thermodynamics and heat transfer, but still found it difficult to follow, math-heavy, and very much lacking in relevant example problems. For a more clearly-presented overview of fire dynamics, I preferred Drysdale’s book, An Introduction to Fire Dynamics. In the future when tackling a fire dynamics project, Quintiere will NOT be the first reference I turn to.

I would highly recommend this book to anyone who is learning Fire Science. The book is a much needed work in Fire Science and covers Fire Dynamics from a historical, practical and fundamental view point. The practice problems at the end of each chapter are challenging and give a thorough understanding of the material. The author has listed good references which allow the reader to look deeper in any particular area of interest. This book ROCKS!

This book was not what I wanted. In looking at the book information, I thought that this was a reference book on the phenomena of fire. When I received it, I discovered that "This book is intended as a senior level or graduate text following introductory courses in thermodynamics, fluid mechanics and heat and mass transfer with a working knowledge of elementary differential equations." Not at all what I was led to believe. Dr Quintiere has done an excellent job for its intended purpose; however, to get what I want requires a lot of effort on my part.

Required for college course - best price & shipping

I got this book for my fire science class. It arrived promptly and in good condition. I personally am not to impressed with the book. It needs more example problems, but supposedly it’s a good overview of the field of fire science.

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