Few areas of microeconomic research have had the success that auction theory has enjoyed in the 45 years since William Vickery published his Nobel Prize winning paper “Counterspeculation, Auctions and Competitive Sealed Tenders” in the Journal of Finance. The public policy significance of auction theory is readily apparent from the crucial role the theory has had in the design of many market institutions, including the auction of mobile phone licenses (or “spectrum auctions”) around the world. It is not uncommon for these auctions to generate government revenues in excess of 500 million dollars. As such, it is not surprising that their effect on economic efficiency, in both the allocation of an important public resource and as a substitute for forms of distortionary taxation, can be large. At a more personal level, the importance of auctions are apparent to anyone entering the housing market, where the house often represents the most important financial asset a family will own.

Despite the influence and importance out the study of auctions, the academic literature is dominated by papers that are a struggle to read. Often these papers require a high degree of mathematical sophistication and a familiarity with a large and confusing body of literature. In writing their book, “An Introduction to Auction Theory” Flavio Menezes and Paulo Monteiro, have made a substantial contribution to making this body of literature accessible to students and researchers.

The book assumes a working familiarity with differentiation and Riemann integration (the integration approach used most commonly in economics, and taught in high schools) and, using these tools, leads the reader through the basic skeleton that all researchers in auction theory use to organize their thoughts. By guiding the reader through the details of this scaffolding, the authors equip the reader to become active participants in the field.

While the basic tools needed to engage the book are what would be expected of an honours-stream undergraduate, the book is demanding in its mathematical approach. Theorems are stated precisely and proved rigorously. By the authors' own admission, the book may require students to be “armed with some degree of persistence”, especially if they have not had a solid graduate grounding in theory.

That said, when reading this book, I was reminded of myself as an honours student attempting to write an undergraduate thesis on housing auctions. To get up to speed with even the basic independent private values (IPV) model was a considerable struggle with literature that was, often, way beyond my capacity. This book provides exactly the sort of technical introduction to the field that I would have benefited from at the time.
After starting with the basic IPV model, Menezes and Monteiro lead the reader through the other canonical case in the theory – the common values model. While the IPV model might be motivated by a house or art auction, where every bidder has an independent private valuation, the common value model is motivated by an auction for mineral drilling rights in, say, the northwest shelf. Every bidder has the same value for a given oil reserve, but differ in their guess-timates of how much oil is actually available to be drilled in the auction at hand.

Between these cases lies the affiliated values environment, which is the next area of research that the book guides the reader through. Following this, the mechanism design approach to auctions is discussed which, naturally, leads to the celebrated revenue equivalence theorem. Then, the final chapter illustrates the challenges posed by multiple-object auctions. A very helpful set of mathematical appendices are also included.

While the book focuses squarely on auctions, it is likely to be helpful in courses dealing with information economics generally. A particular virtue of the book is the tangible, hands on, approach taken to explaining the revelation principle. Often textbooks treat the revelation principle in very abstract terms which result in its significance being missed by most students. The approach taken by Menezes and Monteiro is to illustrate how various auctions can be constructed as both indirect and direct mechanisms and then show how a direct mechanism makes everything easy, general and powerful. It is a wonderful pedagogical approach.

While the book is a very helpful collection of core results and techniques it has little to offer in terms of introducing students to ongoing research questions. This is the central problem with using this text on its own in a graduate class. Happily, contributions by Klemperer (2004) and Krishna (2002) fill this requirement, while being somewhat less detailed in their exposition of the mechanics of the theory, and would serve as a strong complement to Menezes and Monteiro’s book.

The other caveat accompanying this strong recommendation of the book is that while it is a great introduction to the theory of auctions, it makes no mention of the growing body of empirical or experimental work that is informing our understanding of auctions in practice. At the present time I am unaware of any book that fills this gap. However, survey articles exist that, in a graduate course on auctions, would provide a useful empirical counterpoint to the strong grounding in theory that would be received from Menezes and Monteiro’s excellent book.¹

¹ See Kagel and Roth (1995) and Athey and Haile (2005) for coverage of experimental and empirical literatures on auctions, respectively.
References:

Athey, Susan and Phillip Haile (2005), Non-parametric approaches to auctions, mimeo, Yale University.


