SIO 223: Class Notes and Text

The table below summarizes how different sections of the class notes correspond to parts of the textbook by Dekking *et al.* (DKLM). You will notice that in most cases the book offers longer and fuller treatments than the notes. This is part of the reason we chose it: if you find the notes too terse, the book offers a more leisurely discussion, with more examples. The book also has a feature that we *strongly* urge you to use, namely the Quick Questions that are scattered through the text. As you read, and encounter one of these, try to answer it before continuing, as a check that you have understood it (''read, mark, learn, and inwardly digest'') and not just nodded along as you read: a habit we can all too easily fall into.

In the table, integers refer to whole chapters, decimals to sections.

Notes	DKLM	Comments
2.2	2	We use *Pr* for probability measure, they use P.
2.3–4	3	You should at least read this so that you will have heard of the ''Law of Total Probability''. See also their Section 1.3 on the ''Monty Hall problem'', which is a good example of the difficulty people have with conditional probability.
2.5	4,5	Most of the examples of distributions they discuss we cover in Chapter 3 of the notes. Their f (probability mass function) is our ϕ (probability density function) and their F (distribution function) is our Φ (cumulative distribution function). Note that they take the usual approach of not using generalized functions, and so have to say that there is no pdf for a discrete-valued random variable.
2.6	7	Their expectation operator E is our *Ex*.
2.7	7.3, 8	Section 7.3 introduces functions of random variables through the change of variables; Chapter 8 covers the more general case.
2.8	11	The full treatment of ''arithmetic with variables'' does require covering joint probability, which we do later, and they do in Chapters 9 and 10.
2.9	14	We hope you will find these two treatments complementary: ours attempts a demonstration, theirs shows more results.
3.0–1	—	
3.2	5.5	
3.3	12	Their discussion is, obviously, more detailed
3.4	5.3	
3.5	12.3	
3.6	—	
3.7	—	
3.8	7.1	
3.9	—	
3.10	27	The discussion in Dekking *et al.* is of the use of the t-distribution for hypothesis testing, which we discuss in Chapter 6.
3.11	—	
3.12	5.4	
3.13	—	
3.14	—	
3.15	—	
4.1	9.2,9.3	
4.2	9.2,9.3	
4.3	10	
4.4	9.4	
4.5	—	
4.6	11.2	
4.6.1	17.4	
4.6.2	—	
4.6.3	—	
4.7	—	
4.8	—	
5.1.1	16.1–2	
5.1.2	16.3	
5.1.3	—	

5.2.1	19,20	
5.2.2	—	Chapter 6 gives some of the ideas.
5.2.3	18	
5.3	23,24	
5.4	19,20	
5.5	21	
6.1	—	
6.2	25	
6.3	28	
6.4	—	
6.5	—	
6.6	—	