Introduction to Dynamical Systems – topics discussed

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book used: Clark Robinson: Dynamical Systems (Stability, Symbolic Dynamics and Chaos); CRC Press – either the first edition (1995) or the second edition (1999)

topic	place in first edition	place in second edition
differential equations and iterated maps as dynamical systems	Chapter I	Chapter I
one-dimensional maps		
- the quadratic family	Section 2.2	Section 2.2
- symbolic dynamics	Sections 2.4, 2.5	Sections 2.4, 2.5
- limit sets and recurrence	Section 2.3	Section 2.3
- conjugacy	Sections 2.6, 2.7	Sections 2.6, 2.7
- structural stability	Sections 2.6, 2.7	Sections 2.6, 2.7
- period doubling bifurcation	Sections 3.4, 6.3	Sections 3.4, 7.3
higher dimensional systems		
- phase portraits of linear diff. eq.	Chapter IV	Chapter IV
- hyperbolicity, Lyapunov exponents	Sections 3.6, 4.6, 7.1.3	Sections 3.6, 4.6, 8.1.3
- fixed points for nonlinear diff. eq.	Sections 5.5.1, 5.5.2	Sections 5.5.1, 5.5.2
- Hartman-Grobman Theorem	in Section 5.5	in Section 5.5
- bifurcation of periodic points	Chapter VI	Chapter VII
- Smale Horseshoe	Section 7.4 (not incl. subsections)	Section 8.4 (not incl. subsections)
- CAT map; Markov partition for hyperbolic toral automorphisms	Section 7.5, 7.5.1 (not the rest)	Section 8.5, 8.5.1 (not the rest)
- Lorenz attractor	Section 7.11 (not incl. subsections)	Section 8.11 (not incl. subsections)