Problem Set 3
Modal Solutions of LTI Systems

Reading:
Linear Algebra Notes (see Readings).
Also at least Sections 5.1–5.3 of the text, but work on finishing Chapter 5.
Start on this problem set early!

Problem 3.1
Problem 5.22 in the hardcover edition of SSI, but ignore the last part of (c) that asks whether the linearized model is reachable/observable. (This is Problem 5.20 in the softcover edition.)

Problem 3.2
Problem 5.6 (which is Problem 5.4 in softcover)

Problem 3.3
Problem 5.16 (which is Problem 5.5 in softcover)

Problem 3.4
Problem 5.26 (which is still Problem 5.26 in softcover)

Problem 3.5
Problem 5.10 (which is Problem 5.16 in softcover)

Problem 3.6 (Optional)
For additional practice, try Problems 5.2, 5.3, 5.4, 5.7, 5.11, 5.12, 5.13, 5.17, 5.18 (which are Problems 5.1, 5.13, 5.3, 5.6, 5.17, 5.10, 5.11, 5.7, 5.8 in softcover SSI).