We can recommend to read the entire notes of Anderson, Seppäläinen, and Valkó, as material for this course, but the following parts of it are particularly close to what has been covered in the lectures:

**Week 1.**
Wednesday: Examples 1.6 and 1.7. See also appendix B for set theory.
Friday: Definition 1.1, Fact 1.8 and the paragraph before and after it, page 21 - 24.

**Week 2.**
Monday: Section 1.2 and appendix C
Wednesday: Section 1.2 and appendix C
Friday: We discussed applications of urn problems, namely finding the probability of a faulty election to have produced the wrong winner, and a probabilistic strategy to estimate the number of balls in an urn of unknown size (*maximum likelihood estimator*). These are treated in detail only in later chapters of ASV. You may want to read the section “Hypergeometric distribution” starting on page 67, however.

**Week 3.**
Monday: Example 2.44 and pages 47-49.
Wednesday: Pages 47-49.
Friday: Pages 51-54.

**Week 4.**
Monday: Exercise 2.85, section 1.5
Wednesday: Section 1.5, section 2.4
Friday: Negative Binomial Distribution: Definition 7.6 and Example 7.7. Expectation: Page 103.

**Week 5.**
Monday: Expectation of discrete RV (page 103-mid 105), Formulas (3.24) and (3.26)
Friday: Examples 3.47, 3.49 and 3.51. We also formally derived the variance of the negative binomial distribution by writing it as a sum of independent geometric distributions.

**Week 6.**
Monday: Thanksgiving
Wednesday: We started discussing the Poisson RV: Section 4.4, until Example 4.23. We also finished an example application of Chebyshev’s inequality, as applied to a lottery problem (geometric RV).
Friday: Section 4.4, until Example 4.23, pages 90-93, pages 97-99

**Week 7.**
Monday: Definition 3.26 and Example 3.27, Fact 3.33, Definition 3.39, Fact 3.45
Wednesday: Midterm 1
Friday: Section 4.5
**Week 8.**
Monday: Section 4.5, Definition 3.60, pages 138+139
Wednesday: Section 3.5, Example 4.2
Friday: Joint distributions, pages 195-199, section 6.2 until page 204. In ASV, joint distributions of \( n \) random variables are discussed, while in class, we only looked at 2 random variables. Generally, the discussion of this topic in ASV is slightly more difficult than the discussion in class.

**Week 8.**
Monday: Example 6.19, Facts 6.22, 6.25. We also calculated an example simpler than, but similar to Example 6.26.
Wednesday: Facts 8.1, 8.10, 8.11 (+ their proofs), Definition 8.23, Fact 8.24, Equation (8.22), Fact 8.31. It is also recommended to read through the entire sections 8.1 and 8.2.
Friday: Example 8.26, Example 8.29, Fact 8.33, Definition 8.35, Theorem 8.36. **Midterm 2 material stops here.**

**Week 9.**
Monday: Definition 10.7, Example 10.8, Definition 10.15, Example 10.18, Definition 10.16, Fact 10.17, Definition 10.23

(updated regularly)