

## CMPE 16

### Applied Discrete Mathematics

### Reading Schedule

The table below provides a rough guide to the topics we will cover on a weekly basis. All chapter, section and page numbers are from the required text

*Book of Proof* by Richard Hammack (<http://www.people.vcu.edu/~rhammack/BookOfProof/>)

| Week | Topic                                                             | Chapter/Sections                                                                                      |
|------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 1    | Sets                                                              | Chapter 1 (1.1-1.10) pp. 3-33                                                                         |
| 2    | Logic                                                             | Chapter 2 (2.1-2.12) pp. 35-64                                                                        |
| 3    | Counting                                                          | Chapter 3 (3.1-3.6) pp. 65-92                                                                         |
| 4    | Counting                                                          | Chapter 3 (3.7-3.10) pp. 93-110                                                                       |
| 5    | Direct Proofs<br>Contrapositive Proofs<br>Proofs by Contradiction | Chapter 4 (4.1-4.5) pp. 113-127<br>Chapter 5 (5.1-5.3) pp. 128-136<br>Chapter 6 (6.1-6.4) pp. 137-144 |
| 6    | Proofs of Non-Conditional Statements<br>Proofs Involving Sets     | Chapter 7 (7.1-7.4) pp. 147-156<br>Chapter 8 (8.1-8.4) pp. 157-171                                    |
| 7    | Disproofs<br>Mathematical Induction                               | Chapter 9 (9.1-9.3) pp. 172-179<br>Chapter 10 (10.1-10.5) pp. 180-197                                 |
| 8    | Relations<br>Functions                                            | Chapter 11 (11.1-11.6) pp. 201-222<br>Chapter 12 (12.1-12.6) pp. 223-243                              |