

## DM538 – Weekly Note 1

### Lecture, week 35

#### Friday, August 31

- Introduction to the course
- Section 5.1: Basic counting techniques
- Section 5.2: The pigeonhole principle
- Section 5.3: Permutations and combinations

### Exercises, week 36

#### Thursday, September 6

- Section 5.1:
  - Exercises 6, 12, 16, 24, 34, 38, 52, 60
- Section 5.2:
  - Exercise 4
  - Exercise 10
    - Hint: Consider the formula for the midpoint and note that it has integer coordinates if the  $x$ -coordinates have the same parity and the  $y$ -coordinates have the same parity.
  - Exercises 14, 22, 40