Set 1

Course Outline: See moodle page
Moodle: resources

Course Overview: Sections 1.1 and 1.2
1. Descriptive Statistics: Chapter 2

- **addresses the following problem**
  - **given some data, try to understand it**
- **the data can be a *sample* or a *population***
  - **eg: the weights of STAT260 students in kg**
- **descriptive statistics is summarization**
- **summaries can be *numerical* or *graphical***
  - **eg:**

2. Probability Theory: Chapters 3, 4 and 5

- **mathematical models that describe chance events or variation in observations**

3. Inferential Statistics: Chapters 6 and 7

- **addresses the following problem**
  - **given a sample, try to understand population**

- **mathematical vs inferential reasoning**
  - **mathematical reasoning (general → specific)**
  - **inferential reasoning (specific → general)**
- **inferential reasoning uses probability theory**
- **eg. Corrosion study was undertaken to determine whether coating an aluminum metal with corrosion retardation substance reduces the amount of corrosion.**
  - **Two levels considered, coating and no coating.**
  - **Two levels of humidity considered, 20% and 80%.**
  - **Eight experimental units randomly assigned to treatment combinations.**

	Humidity	Average corrosion '000 cycles to failure
Uncoated	20%	975
	80%	350
Chemical Coating	20%	1750
	80%	1550