BASIC CONCEPTS: VOTING
1. Preference ballot and preference schedule
3. majority candidate, Condorcet candidate, insincere voting
4. Fairness criteria: majority criterion, Condorcet criterion, monotonicity criterion, independence of irrelevant alternatives criterion

BASIC CONCEPTS: APPORTIONMENT
1. Apportionment methods: Hamilton, Jefferson, Adams, Webster, divisor methods
2. seats, states, populations, standard divisor, standard quotas, modified divisor and quotas, lower and upper quotas
3. fairness criteria: (upper and lower) quota violations, avoiding the Alabama, new states and population paradoxes

BASIC FACTS
1. which apportionment methods violate fairness criteria
2. For any natural number N, we have $1 + 2 + \cdots + N = \frac{N(N+1)}{2}$
3. In an election with N alternatives, the total number of pairwise comparisons is $\frac{(N-1)N}{2}$.
4. with t candidates the number of distinct possible preference ballots is $n! = 1 \times 2 \times 3 \times \cdots \times t$
5. The Arrow impossibility theorem
6. the Balinski and Young impossibility theorem
7. history of apportionment in the house of representatives