

Appendix 1

Developing Statistical intuition (13h)

0. Statistics and probability: from sample to population (1h)
1. Confidence intervals (1h)
2. Continuous variables (2h)
3. P-values and statistical significance (2h)
4. Statistical assumptions (1h)
5. Statistical tests (3h)
6. Fitting models (3h)

Introduction to Experiment Design (7h)

7. Pilot, exploratory and confirmatory experiments (1h)
8. Statistical independence and experimental units (1h)
9. Avoiding bias: blocking, randomization and blinding (2h)
10. Reducing variance: variable and population selection, experimental conditions, averaging and blocking (2h)
11. Introduction to sample size calculation (1h)

Sample Size Calculations (10h)

12. Sample size for comparing means (2h)
13. Sample size for comparing proportions (2h)
14. Sample size for comparing variance (1h)
15. Sample size for regression (1h)
16. Sample size for correlation and agreement (1h)
17. Sample size for survival analysis (1h)
18. Adaptive sample size (1h)
19. Sample size for pilot experiments (1h)

Design of experiments (10h)

20. Completely randomized designs (1.5h)
21. Regression design (1h)
22. Randomized block design (1h)
23. Linear models, sample size and replications (1h)
24. Latin squares, graeco-latin squares (0.5h)
25. Cross-over designs (1h)
26. Factorial designs (1h)
27. Fractional factorial designs (1h)
28. Split-unit and hierarchical designs (1h)
29. Response surface designs (0.5h)
30. Design selection guide (0.5h)