

Please paste your questions here:

- Could you please explain the concept of Kernel Density Plot again? (Week 03, Lecture 2, Slide 11)
- From the Central Limit Theorem or SEM value, how can we be certain of our sample mean? Is there a certain amount of SEM value that determines the certainty of our sample mean? Like less than 0.5 or greater than 0.5? (Week 03, Lecture 2, Slide 62)
- Can you explain Effect Size in detail? (Lecture 03, Slide 30)
- Why was the z-score calculated differently in Week 03 (slide 41) and Week 06 (slide 11)? (Once with population SD in the denominator and once with SEM)
- In Week 06, why is t calculated differently on slides 17 and 22? (Once with sample SD in the denominator and once with SEM)
- In Week 06, are we on slide 39 even allowed to use the independent samples student's t-test because the sd of the groups are different?
- Can you explain the hypothesis tests for correlations again?
- For the exam, should we be able to carry out the Wilcoxon tests by hand?
 - What do we need to be able to calculate by hand?
- What if we want to do a regular χ^2 test (no contingency table) but the expected frequencies are below 5?
- What is the difference between a random effect of one variable on another and an interaction between two variables?
- Can you explain Fisher's exact test example once again?
- Could you please give a brief overview of "When to use which test?". (A very brief one would do!)
- An intuitive(as much as possible!) definition of "p-value". If I say "p-value is the measurement of, if we sample then what is the possibility that this sample will lie under the distribution of the null-hypothesis not by chance?" Will this definition be correct?
- Intuitive definition of "Confidence Interval".
- Intuitive definition of "Credibility Interval".
- When do we use linear Mixed Effect Models?
- Intuitive definition of Variance and Standard Deviation.
- If we run a one-way ANOVA and get a significant result, the slides propose using pairwise t-test to check where the significant difference between the factors is. How does this not result in the same high Type-I error that lead to using ANOVA in the first

place? Or what is the advantage of using ANOVA and then pairwise t-test with e.g. bonferroni correction instead of using corrected pairwise tests directly?

- Can you explain the difference between the different post hocs?
- A generalized way to find degrees of freedom for all the cases?
- Are we expected to do Fisher's Exact test by hand in the exam? If yes then, please explain how to calculate the hypergeometric value of **a**.
- "Pearson's χ^2 test is approximation, but for more categories" this comes up at the end of Lecture 4 in the summary section. But in the slides I find no mention of this in the slide on top. Am I missing something? Is this important for the exam?
- Do we need to know the R commands for the different tests, etc?