**Summary of Hypothesis Tests**

**(only those covered in CENG / NANO114)**

**Symbol meanings (note that the actual definition depends on subscripts!)**

| Name | Test statistic | Notes |
| --- | --- | --- |
| One-sample *z*-test |  | * Normal population or when *n* > 30 and population standard deviation is known. |
| One-sample *t*-test |  | * Normal population * *n* < 30 and population standard deviation is unknown. |
| Two-sample *t*-test (independent) |  | * *n* < 30 and population standard deviation is unknown. * Pooled variance estimate assumes *X1* and *X2* have similar population standard deviation. If this assumption is not valid, you can estimate the standard deviations of each population the regular way (same as one sample *t*-test). |
| Paired *t*-test |  | * *D* refers to paired differences |
| Correlation Coefficient *t*-test |  |  |
| *F*-test ANOVA (one factor) |  | * Normal population or n > 30 and population standard deviation is unknown. * Tukey’s HSD test is used when *F* test results in rejection of null hypothesis |
| *F*-test ANOVA (one factor) – repeated measures |  | * Normal population or n > 30 and population standard deviation is unknown. * Tukey’s HSD test is used when *F* test results in rejection of null hypothesis |