

```

/* More than 2 Independent Samples - Module 13 */

ods pdf file='H:\_SAS\Mod13_Ex_ANOVA.pdf' notoc;

title 'View Variables';
proc contents data=bio.frustration;
run;
title;

/* One-way ANOVA */
title 'ANOVA: Compare frustration by major with Tukey and Bonferroni multiple
comparisons';
ods graphics on;
proc ANOVA data=bio.frustration;
class major;
model frustrationscore = major;
means major / tukey bon;
run;
ods graphics off;
title;

/* QQplots and Confidence Intervals by groups - must sort by grouping
variable first! */
/* Sorting data by major */
proc sort data=bio.frustration;
by major;
run;

ods trace on;
ods graphics on;
title 'QQ plots and standard 95% confidence intervals by Major';
proc univariate data=bio.frustration cibasic;
by major; /* Whenever you use a "by" statement for analysis, must be
previously sorted */
var frustrationscore;
qqplot frustrationscore / normal(mu=est sigma=est);
ods select BasicIntervals QQplot; /* Trace used to find names (in LOG) for
two needed components */
run;
ods graphics off;
ods trace off;
title;

/* Kruskal Wallis test */
title 'Kruskal Wallis Test';
proc npar1way data=bio.frustration wilcoxon;
class major;
var frustrationscore;
run;
title;

ods pdf close;

```