ANOVA Between

Data should be entered so that each row represents a unique subject (one score per subject in a between).

There should be one column to represent each unique independent variable.

One column should contain the subjects' data.

So, for example, if we had 12 participants (two per unique condition):

F1	F2	DATA
1	1	1
1	2	3
1	3	5
1	1	2
1	2	4
1	3	6
2	1	7
2	2	7
2	3	7
2	1	8
2	2	9
2	3	10

In SPSS:

Analyze → General Linear Model → Univariate

In the Univariate screen/box, you will need to designate which column contains your data (dependent variable)

In the Univariate screen/box, you will need to designate which column contains each Independent Variable (fixed factors).

OK

Should produce your ANOVA output.

ANOVA Within

Data should be entered so that each row represents a unique subject (in a 2 x 3 = 6 scores per participant).

There should be a column to represent data from that subject for each unique condition.

So, for example, using the same data from above, but now manipulated within subjects, we have 2 participants:

A1B1	A1B2	A1B3	A2B1	A2B2	A2B3
1	3	5	7	7	7
2	4	6	8	9	10

In SPSS:

Analyze → General Linear Model → Repeated Measures

In the Repeated Measures screen/box, you will need to designate the names of your factors and how many levels of each – be sure to ADD them.

Then click DEFINE so that you can tell SPSS which column represents which combination of factors.

OK

Should produce your ANOVA output (look for your F-values etc. on the lines that say "Sphericity Assumed).

The relevant tables from each SPSS output may be found on the next page (with the critical bits highlighted). Beneath each table is an example of how the main effects/interactions would appear in a reporting of results.

Note that “Sig.” means p-value.

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	77.750[a]	5	15.550	10.976	.006
Intercept	396.750	1	396.750	280.059	.000
Afactor	60.750	1	60.750	42.882	.001
Bfactor	12.500	2	6.250	4.412	.066
Afactor * Bfactor	4.500	2	2.250	1.588	.280
Error	8.500	6	1.417		
Total	483.000	12			
Corrected Total	86.250	11			

E.g., Main effect of Factor A, $F(1,6) = 42.88$, $p = .001$. Main effect of Factor B, $F(2,6) = 4.41$, $p = .066$. Interaction of A with B, $F(2,6) = 1.59$, $p = .280$.

Tests of Within-Subjects Effects

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
FactorA	Sphericity Assumed	60.750	1	60.750	81.000	.070
	Greenhouse-Geisser	60.750	1.000	60.750	81.000	.070
	Huynh-Feldt	60.750	.	.	.	.
	Lower-bound	60.750	1.000	60.750	81.000	.070
Error(FactorA)	Sphericity Assumed	.750	1	.750		
	Greenhouse-Geisser	.750	1.000	.750		
	Huynh-Feldt	.750	.	.		
	Lower-bound	.750	1.000	.750		
FactorB	Sphericity Assumed	12.500	2	6.250	25.000	.038
	Greenhouse-Geisser	12.500	1.000	12.500	25.000	.126
	Huynh-Feldt	12.500	.	.	.	.
	Lower-bound	12.500	1.000	12.500	25.000	.126
Error(FactorB)	Sphericity Assumed	.500	2	.250		
	Greenhouse-Geisser	.500	1.000	.500		
	Huynh-Feldt	.500	.	.		
	Lower-bound	.500	1.000	.500		
FactorA * FactorB	Sphericity Assumed	4.500	2	2.250	9.000	.100
	Greenhouse-Geisser	4.500	1.000	4.500	9.000	.205
	Huynh-Feldt	4.500	.	.	.	.
	Lower-bound	4.500	1.000	4.500	9.000	.205
Error(FactorA*FactorB)	Sphericity Assumed	.500	2	.250		
	Greenhouse-Geisser	.500	1.000	.500		
	Huynh-Feldt	.500	.	.		
	Lower-bound	.500	1.000	.500		

E.g., Main effect of Factor A, $F(1,1) = 81.00$, $p = .070$. Main effect of Factor B, $F(2,2) = 25.00$, $p = .038$. Interaction of A with B, $F(2,2) = 9.00$, $p = .100$.