

**DRAFT****Training School Online Programme, April 2021**

Session	Time	Session Title and Content
<b>Monday 12 April</b>		<b>Basic Principles</b>
	9.30-10.00	Welcome
1	10.00-10.45	Introduction to course: <i>The Three Rs, legal and ethical aspects of Experimental Design.</i> Introduction of Tutors
2	10.45-11.30	<b>Quiz 1</b>
3	11.30-12.15	Principles of experimental design. Types of experiment (pilot, exploratory, confirmatory), objectives, controls, experimental units, replication, randomization, blinding.
	12.15-13.15	LUNCH
4	13.15-14.00	Common failings: unclear objectives, bias, lack of power, failure to randomize/blind, pseudoreplication. Costs of poor design.
5	14.00-15.00	<b>Group Exercise 1:</b> Controls, experimental units.
	15.00-15.15	Summary and information for Tuesday
	16.00-17.00	VIRTUAL SOCIAL EVENT?
<b>Tuesday 13 April</b>		<b>Basic Principles (Continued)</b>
	9.45-10.00	Welcome
6	10.00-10.45	Revision of basic statistical inference. Null and alternative hypotheses, SD vs. SE, outliers, type I & type II errors, variables affecting significance, summary statistics.
7	10.45-11.30	Sources of variability in animal studies and how they may be controlled. Need for better design.
	11.30-11.45	BREAK
8	11.45-12.30	Simulating experiments and the importance of controlling variability. Randomisation, sampling, Type 1 and Type 2 errors.
	12.30-13.30	LUNCH
<b>Tuesday (Continued)</b>		<b>Experimental Designs and Statistical Analysis</b>
9	13.30-14.15	The analysis of variance, interactions, post-hoc tests, assumptions, data transformations.
10	14.15-15.15	<b>Group Exercise 2:</b> Finding basic faults.

	15.15-15.30	BREAK
11	15.30-16.15	Completely randomised, randomised block and latin square designs. Power calculations, resource equation.
	16.15-16.30	Summary and Information for Wednesday and Thursday
<b>Wednesday 14 April (am)</b>		
	9.45-10.00	Welcome
12	10.00-10.45	Qualitative data, contingency tables, non-parametric tests.
13	10.45-11.30	Factorial "designs".
	11.30-11.45	BREAK
14	11.45-12.45	<b>Group Exercise 3: Choosing the right design &amp; over-night exercise.</b> <b>Rest ½ day and Tutor Drop ins</b>
<b>Wednesday 14 April (pm)</b>		
	?	Group Drop In – Open session to speak to the panel of tutors
	?	VIRTUAL SOCIAL EVENT?
<b>Thursday 15 April (am)</b>		
<b>Rest ½ day and Tutor Drop ins</b>		
	?	Individual Drop In – Opportunity to book a 15min 1-1 chat with a specific tutor
<b>Thursday 15 April (pm)</b>		
<b>Experimental Designs and Statistical Analysis (Continued)</b>		
	13.30-13.45	Welcome
15	13.45-14.30	Experiments to test relationship: correlation, regression.
16	14.30-15.15	Power analysis, EDA and the pros and cons of software.
	15.15-15.30	BREAK
<b>Thursday 15 April (Continued)</b>		
<b>Applied Experimental Design and Important Design Messages</b>		
17	15.30-16.15	Presenting results and planning an experimental programme.
	16.15-16.30	Summary and Information for Friday

Friday 16 April		Applied Experimental Design and Important Design Messages Continued
	9.45-10.00	Welcome
18	10.00-11.00	<b>Group Exercise 4:</b> Analysing variance step by step
19	11.00-11.45	<b>Quiz 2</b> and discussion.
	11.45-12.00	<b>BREAK</b>
20	12.00-13.00	<b>Parallel Session: Ask the Experts!</b> <b>Session A:</b> Writing an experimental protocol, ethical review & 3Rs <b>Session B:</b> Discussion of participants unresolved design problems
	13.00-13.45	<b>LUNCH</b>
21	13.45-14.15	Searching for information on Rs and 3Rs resources
22	14.15-14.30	Answers to Quiz 2 & take-home messages.
	14.30-14.45	<b>BREAK</b>
23	14.45-15.45	<b>FELASA Examination</b> – Need to discuss administration of this

**NB: Programme subject to change. Final version will be included with the Joining Information.**