

**TIMETABLE for FELASA 8 levels A-B 2022**

<b>Day 1 Course type</b>	<b>Time June 22 Wednesday</b>	<b>Title</b>	<b>Teacher(s)</b>	<b>Duration (hrs)</b>	<b>Teaching tools</b>	<b>EU module</b>	<b>Place</b>
A-B	8.00-9.30	Opening, introduction, information about the course	József Kaszaki Andrea Szabó	2	Seminar online	-	online
A-B	9.35-11.05	Principles and requirements for reduction, refinement and replacement (3Rs)	József Kaszaki	2	Lecture online	Core Module 2 - Ethics, Animal Welfare and the Three Rs	online
A-B	11.15-12.45	Biology of laboratory animals I. Species-specific biology. Rodent anatomy, physiology, behaviour.	Tünde Tőkés	2	Lecture online	Core Module 3.1 - Basic and Appropriate Biology	online
A-B	13.30-15.00	European and national legislation of animal experiments	József Kaszaki	2	Lecture online	Core Module 1 - National Legislation	online
A-B	15.10-16.40	Biology of laboratory animals II. Species-specific biology of large laboratory animals. Anatomy, physiology, behaviour	Gabriella Varga	2	Lecture online	Core Module 3.1 - Basic and Appropriate Biology	online
<b>Day 2</b>	<b>Time June 23 Thursday</b>	<b>Title</b>	<b>Teacher(s)</b>	<b>Duration</b>	<b>Teaching tools</b>	<b>EU module</b>	<b>Place</b>
A-B	8.00-9.30	Ethical aspects of animal use, arguments for and against the use of animals for scientific purposes	Mihály Boros	2	Lecture online	Core Module 2 - Ethics, Animal Welfare and the Three Rs	online
A-B	9.35-11.05	Animal care, husbandry and management: appropriate, safe and humane handling, sexing and restraint	Gabriella Varga	2	Lecture online	Core Module 4 - Animal Care, Health and Management	online
A-B	11.15-12.45	Care and housing of laboratory animals. The grading of hygiene of animals and animal houses, environmental enrichment.	Dániel Érces	2	Lecture online	Core Module 4 - Animal Care, Health and Management	online

**TIMETABLE for FELASA 8 levels A-B 2022**

A-B	13.30-14.15	Minimally invasive procedures without anaesthesia	Marietta Poles	1	Seminar online	Function Specific Module 7 - Minimally Invasive Procedures Without Anaesthesia - theory	online
A-B	14.20-15.05	Species specific handling, sexing and restraint of laboratory animals	Gabriella Varga, József Kaszaki Marietta Poles;	1	Demonstration online	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	online
B	15.15-16.45	Outbred, inbred and transgenic animals, genetic characterization, standardization, genetic quality control.	Csaba Vízler	2	Lecture online	Function Specific Module 10 - Design of procedures and project (level 1)	online
<b>Day 3</b>	<b>Time June 24</b>	<b>Title</b>	<b>Teacher(s)</b>	<b>Duration</b>	<b>Teaching tools</b>	<b>EU module</b>	<b>Place</b>
A-B	8.00-8.45	Species-specific recognition of pain, suffering and distress; monitoring of animal wellbeing	Attila Rutai	1	Lecture online	Core Module 5 - Recognition of Pain, Suffering and Distress	online
A-B	8.45-9.30	Species-specific recognition of pain, suffering and distress; Scoring system to assess animal wellbeing	Attila Rutai	1	Practice online	Core Module 5 - Recognition of Pain, Suffering and Distress	online
A-B	9.35-11.05	Anaesthesia and analgesia of laboratory animals. General rules of anaesthesia.	Dániel Érces	2	Lecture online	Task Specific Module 20 - Anaesthesia for Minor Procedures	online
A-B	11.10-11.55	Post-experimental management: humane endpoints, methods of euthanasia	Dániel Érces	1	Lecture online	Core Module 6.1 - Humane Methods of Killing	online
A-B	12.00-12.45	Calculation of the dose of anaesthetic drugs for different species	László Juhász	1	Practice online	Task Specific Module 20 - Anaesthesia for Minor Procedures	online
A-B	13.30-15.00	Principles of surgical procedures, the rules of asepsis. Basic surgical procedures. Wound management.	Szabolcs Tallósy	2	Lecture online	Task Specific Module 22 - Principles of Surgery	online

**TIMETABLE for FELASA 8 levels A-B 2022**

B	15.30-17.00	Licensing of animal experiments in practice - implementation of 3 Rs	József Kaszaki	2	Seminar online + Home study	Function Specific Module 9 - Ethics, Animal Welfare and the Three Rs (level 2)	online
<b>Day 4</b>	<b>Time June 27</b>	<b>Title</b>	<b>Teacher(s)</b>	<b>Duration</b>	<b>Teaching tools</b>	<b>EU module</b>	<b>Place</b>
A-B	8.00-9.30	Species specific handling, sexing and restraint of laboratory animals	Gabriella Varga; Marietta Poles; Dániel Érces; Attila Rutai; Renáta Szabó	2	Practice (contact)	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research Pulz st.1.
A-B	9.35-10.20	Care and housing of laboratory animals in practice: nutrition, cleaning and bedding. Different methods for marking individual.	Gabriella Varga; Marietta Poles; Dániel Érces; Renáta Szabó	1	Practice (contact)	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research Pulz st.1.
A-B	10.30-12.00	Minimally invasive procedures without anaesthesia on phantoms: subcutaneous, intraperitoneal, intravenous, intramuscular injections, intravenous access with Braun catheters for blood sampling, infusions and gavage	Marietta Poles, Szabolcs Tallósy, László Juhász, Renáta Szabó	2	Practice (contact)	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research Pulz st.1.
A-B	12.45-14.15	Anaesthesia of rodents in practice. Inhalation anaesthesia; Injections and blood sampling techniques under anaesthesia	Gabriella Varga; Dániel Érces; Marietta Poles, Renáta Szabó	2	Practice (contact)	Task Specific Module 20 - Anaesthesia for Minor Procedures	Inst of Surgical Research Pulz st.1.
A-B	14.25-16.00	Advanced knowledge on mice. Species-specific experimental practices on mice. Creating transgenic lines	Marietta Poles, Gabriella Varga	2	Seminar/Practice (online/contact)	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research Pulz st.1.

**TIMETABLE for FELASA 8 levels A-B 2022**

A-B	16.10-17.00	Safety in working with animals carrying infectious diseases/agents	Szabolcs Tallósy	1	Lecture online/contact	Core Module 4 - Animal Care, Health and Management	Inst of Surgical Research Pulz st.1.
<b>Day 5</b>	<b>Time June 28</b>	<b>Title</b>	<b>Teacher(s)</b>	<b>Duration</b>	<b>Teaching tools</b>	<b>EU module</b>	<b>Place</b>
A-B	8.00-8.45	Examination of animal behaviour	Zsuzsanna Bohár	1	Seminar (online)	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research Pulz st.1.
A-B	8.45-10.15	Methods of investigating laboratory animal behaviour in practice	Zsuzsanna Bohár; Ágnes Szabó	2	Practice (contact) Demonstration	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research Pulz st.1.
A-B	10.25-11.55	Practice in operating theatre: aseptic techniques, working under sterile circumstances, basic surgical procedures and suturing on dummies and phantoms	Szabolcs Tallósy, László Juhász, Attila Rutai, Anna Nászai	2	Practice (contact)	Task Specific Module 22 - Principles of Surgery	Inst of Surgical Research Pulz st.1.
<b>B</b>	12.45-14.15	Introduction to the science of laboratory animals, use of animals for different areas of research. The procedure of modelling.	Mihály Boros	2	Lecture (contact)	Function Specific Module 10 - Design of procedures and project (level 1)	Inst of Surgical Research Pulz st.1.
<b>B</b>	14.25-15.55	Principle of design of projects - experimental unit, randomisation, protocols of animal experiments	József Kaszaki	2	Lecture (contact)	Function Specific Module 10 - Design of procedures and project (level 1)	Inst of Surgical Research Pulz st.1.
<b>B</b>	16.05-17.00	Requirements of assured quality standards - Good Laboratory Practice	Csaba Varga	1	Lecture (contact)	Function Specific Module 11 - Design of procedures and project (level 2)	Inst of Surgical Research Pulz st.1.
<b>Day 6</b>	<b>Time June 29</b>	<b>Title</b>	<b>Teacher(s)</b>	<b>Duration</b>	<b>Teaching tools</b>	<b>EU module</b>	<b>Place</b>
<b>B</b>	8.00-8.45	Basics of statistics. Introduction of sample size estimation (theory)	Ferenc Rárósi	1	Lecture	Function Specific Module 10 - Design of procedures and project (level 1)	Dept. of Medical Physics and Informatics

**TIMETABLE for FELASA 8 levels A-B 2022**

<b>B</b>	8.45-9.30	Basics of statistics. Introduction of sample size estimation (skill)	Ferenc Rárósi	1	Computer skills	Function Specific Module 10 - Design of procedures and project (level 1)	Dept. of Medical Physics and Informatics
<b>B</b>	10.00-11.30	Advanced knowledge on rats. Species-specific experimental practices on rats	Gabriella Varga, Attila Rutai	2	Practice	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research Pulz st.1.
<b>B</b>	11.35-13.05	Advanced knowledge on pigs. Species-specific experimental practices on minipigs	Dániel Érces, Attila Rutai	2	Demonstration	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research Pulz st.1.
<b>B</b>	13.45-15.15	The concept of gnotobiology. Important zoonotic diseases of laboratory animals.	Szabolcs Tallósy	2	Lecture	Core Module 4 - Animal Care, Health and Management	Inst of Surgical Research Pulz st.1.
<b>B</b>	15.45-16.30	Significance of zebrafish in animal research	Emilia Rita Szabó	1	Lecture	Core Module 3.1 - Basic and Appropriate Biology	ELI ALPS Laser Research Institute
<b>B</b>	16.30-17.15	Biology and experimental practice of zebrafish	Emilia Rita Szabó,	1	Practice	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	ELI ALPS Laser Research Institute
<b>Day 7</b>	<b>Time June 30</b>	<b>Title</b>	<b>Teacher(s)</b>	<b>Duration</b>	<b>Teaching tools</b>	<b>EU module</b>	<b>Place</b>
<b>B</b>	8.00-9.30	Advanced anaesthesia for surgical or prolonged procedures. Applied drugs, doses and side effects.	Dániel Érces	2	Lecture	Task Specific Module 21 - Advanced anaesthesia for surgical procedures	Inst of Surgical Research Pulz st.1.
<b>B</b>	9.35-11.00	Design of procedures. Experimental techniques in practice. Monitoring of vital signs	József Kaszaki	2	Lecture	Function Specific Module 11 - Design of procedures and project (level 2)	Inst of Surgical Research Pulz st.1.
<b>B</b>	11.10-12.00	In vivo monitoring of vital signs on rodents	Dániel Érces, Attila Rutai	1	Demonstration	Function Specific Module 11 - Design of procedures and project (level 2)	Inst of Surgical Research Pulz st.1.

**TIMETABLE for FELASA 8 levels A-B 2022**

<b>B</b>	12.45-15.00	Sample size estimation. Interpretation of results - complex statistical analysis	Ferenc Rárósi	3	Computer skills	Function Specific Module 11 - Design of procedures and project (level 2)	Dept. of Medical Physics and Informatics
<b>B</b>	15.15-16.00	Design of procedures - alternatives to animal use. In vitro experimental techniques - tissue cultures	Tamás Csont	1	Lecture	Function Specific Module 11 - Design of procedures and project (level 2)	Skills Centre
<b>B</b>	16.00-16.45	Design of procedures - alternatives to animal use. Ex vivo experimental techniques - the Langendorff heart perfusion method	Csaba Csonka	1	Lecture	Function Specific Module 11 - Design of procedures and project (level 2)	Skills Centre
<b>Day 8</b>	<b>Time July 01</b>	<b>Title</b>	<b>Teacher(s)</b>	<b>Duration</b>	<b>Teaching tools</b>	<b>EU module</b>	<b>Place</b>
<b>B</b>	8.00-11.15	Basic surgical procedures on anaesthetised rodents: preparation of trachea; opening of the abdominal cavity; transcardial perfusion	Gabriella Varga, Attila Rutai, Marietta Poles, Dániel Érces	4	Practice	Task Specific Module 22 - Principles of Surgery	Inst of Surgical Research Pulz st.1.
<b>B</b>	11.20-12.05	Humane and licensed methods of rodent euthanasia in practice	Dániel Érces Attila Rutai, József Kaszaki	1	Practice	Function Specific Module 6.2 - Humane methods of killing (skills)	Inst of Surgical Research Pulz st.1.
<b>B</b>	12.50-13.35	Alternatives to animal use - ex vivo liver perfusion technique	Attila Rutai, Tamara Horváth	1	Demonstration	Function Specific Module 11 - Design of procedures and project (level 2)	Inst of Surgical Research Pulz st.1.
<b>B</b>	13.40-14.25	Dissemination of the study results. Key issues of the publication – the ARRIVE guidelines	László Juhász	1	Lecture	Function Specific Module 11 - Design of procedures and project (level 2)	Inst of Surgical Research Pulz st.1.
<b>B</b>	14.25-15.10	Dilemmas of translating animal experiments to clinical practice	László Juhász	1	Lecture	Function Specific Module 11 - Design of procedures and project (level 2)	Inst of Surgical Research Pulz st.1.

**TIMETABLE for FELASA 8 levels A-B 2022**

<b>B</b>	15.20-16.05	Importance of good animal welfare including its effect on scientific outcomes;	József Kaszaki	1	Lecture	Function Specific Module 9 - Ethics, Animal Welfare and the Three Rs (level 2)	Inst of Surgical Research Pulz st.1.
<b>B</b>	16.10-17.00	Licensing of animal experiments in practice - necessary information for harm/benefit assessment	József Kaszaki	1	Seminar	Function Specific Module 9 - Ethics, Animal Welfare and the Three Rs (level 2)	Inst of Surgical Research Pulz st.1.
<b>Day 9</b>	<b>Time July 02</b>	<b>Title</b>	<b>Teacher(s)</b>	<b>Duration</b>			<b>Place</b>
	8.30-9.30	Theoretical exam	Andrea Szabó	1 hr			Inst of Surgical Research Pulz st.1.
	9.30-11.30	Practical exam	Andrea Szabó, József Kaszaki Gabiella Varga, Dániel Érces, Marietta Poles	2 hrs			Inst of Surgical Research Pulz st.1.
	12.00-12.15	Closing remarks	Mihály Boros				