

TIMETABLE WITH LEARNING OUTCOMES MAPPING

Day 1 Course type	Time Monday 15 January	Title	Teacher(s)	Duration (hrs)	Teaching tools	EU module	Place
A AB B	8.15-9.45	Opening, introduction, information about the course	József Kaszaki Andrea Szabó	2	Seminar online	-	online
A AB B	10.00-11.30	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 AB	11.45-13.15	Biology of laboratory animals I. Species-specific biology. Rodent anatomy, physiology, behaviour.	Attila Rutai	2	Lecture online	Core Module 3.1 - Basic and Appropriate Biology	online
	13.15-14.15	Lunch					
A AB	14.15-15.45	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
AB B	16.00-16.45	Advanced knowledge on mice. Creating transgenic lines.	László Juhász	1	Seminar online	Function Specific Module 10 - Design of procedures and project (level 1)	online
Day 2	Tuesday 16 January	Title	Teacher(s)	Duration	Teaching tools	EU module	Place
A AB	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 AB B	9.45-11.15	European and national legislation of animal experiments	József Kaszaki	2	Lecture online	Core Module 1 - National Legislation	online

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A-optional AB B	11.30-13.00	Introduction to the science of laboratory animals, use of animals for different areas of research. The procedure of modelling.	Mihály Boros	2	Lecture online	Function Specific Module 10 - Design of procedures and project (level 1)	online
	13.00-14.00	Lunch					
A AB	14.00-15.30	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 AB	15.45-16.30	Species specific handling, sexing and restraint of laboratory animals	Gabriella Varga, Marietta Poles; Attila Rutai	1	Video demonstration online	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	online
Day 3	Wednesday 17 January	Title	Teacher(s)	Duration	Teaching tools	EU module	Place
AB B	8.00-9.30	Project evaluation and retrospective assessment – The importance of the harm/benefit analysis	Mihály Boros	2	Lecture online	Function Specific Module 9 - Ethics, Animal Welfare and the Three Rs (level 2)	online
A AB	9.45-11.15	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
A AB	11.30-12.15	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 AB	12.15-13.00	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
	13.00-14.00	Lunch					

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Day 5	Friday 19 January	Title	Teacher(s)	Duration	Teaching tools	EU module	Place
AB B	8.00-8.45	Basics of statistics. Introduction of sample size estimation (theory)	Ferenc Rárósi	1	Lecture online	Function Specific Module 10 - Design of procedures and project (level 1)	online
A AB	9.00-10.30	Minimally invasive procedures without anaesthesia	Attila Rutai	2	Seminar online	Function Specific Module 7 - Minimally Invasive Procedures Without Anaesthesia - theory	online
AB B	10.45-11.30	Advanced anaesthesia for surgical or prolonged procedures. Applied drugs, doses and side effects.	Dániel Érces	1	Lecture online	Task Specific Module 21 - Advanced anaesthesia for surgical procedures	online
AB B	11.45-12.30	Importance of good animal welfare including its effect on scientific outcomes;	József Kaszaki	1	Lecture online	Function Specific Module 9 - Ethics, Animal Welfare and the Three Rs (level 2)	online
	12.30-13.30	Lunch					
AB B	13.30-15.00	The concept of gnotobiology. Important zoonotic diseases of laboratory animals.	Szabolcs Tallósy	2	Lecture online	Core Module 4 - Animal Care, Health and Management	online
AB B	15.15-16.45	Licensing of animal experiments in practice - Advice on completing the Application for Animal Experimentation License (AEL)	József Kaszaki	2	Seminar online + Home study	Function Specific Module 9 - Ethics, Animal Welfare and the Three Rs (level 2)	online
Day 6	Monday 22 January	Title	Teacher(s)	Duration	Teaching tools	EU module	Place
A AB B	8.00-8.30	Welcome, practical information; Fire, health and safety regulations	József Kaszaki				Institute of Surgical Research

TIMETABLE WITH LEARNING OUTCOMES MAPPING

A AB B	8.30-10.30	Species specific handling, sexing and restraint of laboratory animals	G Varga, K Kupai, A Pósa, L Juhász, M Poles; N Bagi ;D Érces; A Rutai; Sz Tallósy; J Kaszaki	2	Practice (contact)	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Institute of Surgical Research
A AB	10.45-11.30	Care and housing of laboratory animals in practice: nutrition, cleaning and bedding. Different methods for marking individual.	Dániel Érces; Gabriella Varga; Attila Rutai; Marietta Poles	1	Practice (contact)	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research
A AB	11.35-13.05	Minimally invasive procedures without anaesthesia on phantoms: subcutaneous, intraperitoneal, intravenous, intramuscular injections, intravenous access with Braun catheters for blood sampling, infusions and gavage	Attila Rutai, Szabolcs Tallósy, László Juhász, Gabriella Varga, Krisztina Kupai, Anikó Pósa	2	Practice (contact)	Function Specific Module 8 - Minimally Invasive Procedures Without Anaesthesia - Skill	Inst of Surgical Research
	13.05-14.00	Lunch					
A AB B	14.00-15.30	Anaesthesia of rodents in practice. Injections and blood sampling techniques under anaesthesia	Gabriella Varga; Krisztina Kupai, Anikó Pósa; Marietta Poles Nikolett Bagi	2	Practice (contact)	Task Specific Module 20 - Anaesthesia for Minor Procedures	Inst of Surgical Research
A AB B	15.30-16.15	Species-specific experimental practices on mice.	Marietta Poles , Gabriella Varga László Juhász, Nikolett Bagi	1	Practice (contact)	Task Specific Module 20 - Anaesthesia for Minor Procedures	Inst of Surgical Research
A AB B	16.15-17.00	Interview current students by FELASA auditors	FELASA auditors	1	presential		Inst of Surgical Research

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Day 8	Wednesday 24 January	Title	Teacher(s)	Duration	Teaching tools	EU module	Place
AB B	8.00-10.15	Basics of statistics. Introduction of sample size estimation (skill)	Ferenc Rárósi	3	Computer skills	Function Specific Module 10 - Design of procedures and project (level 1)	Dept. of Medical Physics and Informatics
A AB B	10.30-12.00	Examination of animal behaviour	Gabriella Kékesi	2	Seminar (contact)	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research
	12.00-13.00	Lunch					
A AB B	13.00-14.30	Methods of investigating laboratory animal behaviour in practice	Gabriella Kékesi; Ágnes Szabó Leatitia Adlan	2	Practice (contact)	Function Specific Module 3.2 - Basic and Appropriate Biology - Skills	Inst of Surgical Research
AB B	14.45-15.30	Design of procedures. Experimental techniques in practice. Monitoring of vital signs	József Kaszaki	1	Lecture (contact)	Function Specific Module 11 - Design of procedures and project (level 2)	Inst of Surgical Research
AB B	15.30-15.45	Transport to ELI ALPS Laser Research Institute					
AB B	16.00-17.30	Significance of zebrafish in animal research - Biology and experimental practice of zebrafish	Emilia Rita Szabó, Réka Molnár	2	Seminar – Practice (contact)	Core Module 3.1 - Basic and Appropriate Biology	ELI ALPS Laser Research Institute
Day 9	Thursday 25 January	Title	Teacher(s)	Duration	Teaching tools	EU module	Place
A-optional AB B	8.00-11.15	Basic surgical procedures on anaesthetised rodents: preparation of trachea; opening of the abdominal cavity; transcatheter perfusion	Gabriella Varga, Attila Rutai, Marietta Poles; Dániel Érces	4	Practice	Task Specific Module 21 - Advanced anaesthesia for surgical procedures; Task Specific Module 22 - Principles of Surgery	Inst of Surgical Research

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A-optional AB B	11.30-12.15	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
	12.15-13.30	Lunch					
AB B	13.30-14.30	Design of procedures - alternatives to animal use.	Szabolcs Tallósy	1	Lecture	Function Specific Module 11 - Design of procedures and project (level 2)	Inst of Surgical Research
AB B	14.40-15.25	Dissemination of the study results. Key issues of the publication – the ARRIVE guidelines	László Juhász	1	Seminar	Function Specific Module 11 - Design of procedures and project (level 2)	Inst of Surgical Research
AB B	25 January 10.00: Deadline for submission of Application for Animal Experimentation License						
Day 10	Friday 26 January	Title	Teacher(s)	Duration	Teaching tools	EU module	Place
A AB B	8.00-10.00	Practical exam	Szabolcs Tallósy Andrea Szabó, Attila Rutai Gabriella Varga, Dániel Érces,	2 hrs			Inst of Surgical Research
A AB B	10.00-11.00	Theoretical exam	Andrea Szabó	1 hr			Inst of Surgical Research
AB B	11.00-11.45 11.45-12.30	Individual discussion of the results of the Application for AEL Individual discussion of the results of theoretical exam	Dániel Érces, József Kaszaki Andrea Szabó	1 hr			
A AB B	12.30-13.00	Closing remarks	Mihály Boros, József Kaszaki				