

Anesthesiology and Pharmacology, VETM*3470

Fall/Winter 2017-2018

0.75 Credits

Calendar Description

This course presents the general principles, pharmacologic basis, and practical applications of general and local anesthesia in small and large animals. Other topics covered include the prevention and treatment of fluid and acid-base imbalance and surgical shock, as well as pharmacological aspects of drugs used in the treatment of infection, seizures, behavioral disorders and disorders of the blood.

Course Coordinators

Overall Course coordinator: Dr. Alex Valverde (for general issues and concerns)

Anesthesiology: Dr. Alex Valverde, Room 2159, phone: 226 924-5879,
valverde@uoguelph.ca

Pharmacology: Dr. Brad Hanna, Main Bldg Rm 1646D, ext 54534, bhanna@uoguelph.ca

Instructors

Dr. Melissa Sinclair	Room 2153	ext. 54450	msinclair@uoguelph.ca
Dr. Ron Johnson	Room 1683	ext. 54051	rjohns03@uoguelph.ca
Dr. Alexa Bersenas	Room 2112	ext. 54712	bersenas@uoguelph.ca
Dr. Jonathan Hare			jhare02@uoguelph.ca

Technicians:

Surgical exercise area: Sue Kinsella

Anesthesia area: Meghan Cigagna, Nick Coghlin, Emily Forde, Ines Jimenez, Andrea Kacer, Jen Nowell, Lucy Siydock, Cindy Stoate, Shirley Tucker, Stephanie Roberts

Administrative Information

For questions regarding academic consideration, continuation of study, academic misconduct, safety, confidentiality, and experiential learning involving use of animals, please refer to the appropriate Phase 2 web documents on the OVC website.

Learning Outcomes

By the end of this course the successful student will be able to:

ANESTHESIA

1. Know the mechanism of action of sedatives, anesthetics, and analgesics
2. Compare and contrast the actions, case applications, and adverse effects of drugs used for sedation, analgesia and general anesthesia in core healthy veterinary species by selecting the most appropriate anesthetic and analgesic protocols
3. Describe the pathophysiological changes associated with general anesthesia and identify the approaches used to reduce the minor and major negative impacts of general anesthesia
4. Describe the components of pain physiology, associated pain management pharmacology, and technical methods for general surgery
5. Conduct the drug and fluid calculations in order to appropriately select and administer accordingly
6. Describe the components of acid base physiology and interpret basic derangements
7. Outline the components, list and assemble the parts of an inhalant anesthetic machine, rebreathing equipment, endotracheal intubation, and intravenous catheterization supplies
8. Conduct endotracheal intubation, intravenous catheterization, anesthetic monitoring, local anesthetic techniques, and safe anesthetic recovery

PHARMACOLOGY OF NON-ANESTHETIC DRUGS

1. Know the beneficial effects, mechanisms of action, and main adverse effects of selected major classes of anticonvulsants, antimicrobial agents, and drugs used to treat behavioural and blood disorders

This course is divided into units with these specific goals that will be provided with each lecture.

Units:

1. Pharmacology (Pharmacokinetics/Pharmacodynamics, Autonomic Pharmacology, Neuromuscular Pharmacology, Sedatives, Opioids, Anti-inflammatory, Local Anesthetics, Antimicrobials, Behaviour Modifying Drugs, Anticonvulsants)

2. Analgesia

3. Local anesthetic techniques (Large Animals, Small Animals)

4. Anesthetic equipment (Equipment, Circuits and Flows)

5. General Anesthesia (Inhalants, Injectables, Techniques, Applied Kinetics, Records, Monitoring, Large Animals, Small Animals)

6. Fluids (Fluid Therapy, Acid-Base, Shock)

7. Euthanasia

8. Special Cases and Management

Evaluation

Students must achieve an **overall course grade** (formative tests + CBL + final exam) of at least 50% in order to pass the course.

Attendance to all laboratories is MANDATORY

4 Quizzes:	30% of the course grade (7.5% each)
Quiz # 1-	From “Introduction” lecture, up to and including “Sedatives 2” lecture.
Quiz # 2-	From “Preop Evaluation” lecture, up to and including “Circuits and flows” lecture
Quiz # 3-	From “Records/Monitoring” lecture, up to and including “Anticonvulsants 2” lecture
Quiz # 4-	From ““Fluids 1” lecture, up to and including “Special Cases- Other” lecture

If Quizzes 1, 2 or 3 are missed (the student having been granted academic consideration), the next Quiz will count for both Quizzes (15% instead of 7.5%). If Quiz 4 is missed (the student having been granted academic consideration), the mark for the final exam will include the mark for the Quiz so that the final examination will count for 61.5% instead of 54% of the course grade.

Students who miss a Quiz for reasons not approved by the Dean’s Office will be assigned a grade of zero for that test.

2 CBL Sessions: 16% (8% each)

Final examination: 54% of the course grade.

The final examination is 3 hours in duration and will be administered as scheduled in the Phase 2 timetable. A grade of at least 50% must be obtained on this exam to pass the course. A student who scores less than 50% on this examination, and whose overall grade for the course is less than 50%, will be deemed to have failed the course. A student who scores less than 50% on this examination, but whose overall course grade is 50% or higher, will be assigned a

grade of incomplete (INC). The latter student will be required to undertake a conditional examination set by the course coordinator. The conditional exam will require further study of the subject during the summer semester. A student who achieves a grade of 50% or higher on this conditional examination will be deemed to have passed the course and will receive their original course grade. A student who achieves a grade of less than 50% on this conditional exam will be deemed to have failed the course and will be assigned a course grade of 49%.

Remedial work may be assigned if poor performance is observed in any area of the course (to be determined by instructors involved). All assigned work (outlined in "Assigned Work", above), and any remedial work, must be completed and approved to pass this course. If any course requirements have not been met by the end of the final exam period the course grade will be recorded as "incomplete." If any requirements remain unfulfilled as of July 1st, a maximum course grade of 49% will be assigned and the student will be deemed to have failed the course.

Resources

Course notes, video clips and other resources will be posted on the course website according to unit/topic. Individual instructors will do this in advance of their lectures or labs. Any supplemental information will be clearly noted.

Textbooks on veterinary anesthesiology and pharmacology may be purchased at the student's discretion but are not required. Students should purchase a veterinary drug handbook of their choice (these will be briefly discussed in class).