

WINDWARD COMMUNITY COLLEGE VETERINARY TECHNOLOGY PROGRAM

ANSC 271L

Anesthesiology and Surgical Nursing for
Veterinary Technicians Lab

Course Syllabus and
Handbook
Fall 2016

Name: _____

ANSC 271 L: Anesthesiology and Surgical Nursing for Veterinary Technicians CRN63397 and CRN63398

Instructor: Jenny Kelly, DVM
Assistant: Kathleen Baxter, RVT
Office: Hale Kako'o 129, 127
Office Hours: by appointment
Office phone number: 236- 9166 or 236-9241
Email: jennyrk@hawaii.edu or
kabaxter@hawaii.edu
Effective Date: Fall 2016

Catalog Description

This course will focus on the clinical skills necessary for safe and effective anesthesia and surgery of companion animal patients (dogs and cats) Skills such as intravenous catheter placement, proper endotracheal intubation, patient and surgical site preparation, and patient monitoring under general anesthesia will be stressed. The use and side effects of commonly used sedatives, analgesics and anesthetics will be covered. Postoperative procedures include patient monitoring and charting as well as client education for postoperative care. (6 hour laboratory)

Pre-Requisite(s): Admission in the Veterinary Technology program.

Co-Requisite(s): Co-registration in ANSC 271.

Activities Required at Scheduled Times Other than Class Times: Students will be expected to rotate through some duties outside of the scheduled class time. These could include arriving fifteen minutes prior to the beginning of lab to help admit patients and set up; staying after lab to clean up or discharging patients. If fulfilling one of these obligations represents an undue hardship, arrangements for accommodations and alternative duty must be made with the instructor by the second week of class.

Students should also note that although the laboratory session is scheduled to conclude at 2:45pm, this is a patient care situation and running late is very common. Students will be required to stay until all their responsibilities for the day are taken care of. Excuses will not be granted for scheduled work, meetings, classes or other commitments. It is suggested that you plan for the lab to take the entire day to avoid having to reschedule other obligations.

Student Learning Outcomes

Upon completion of the course, the student will be able to:

- Understand the proper operation of anesthetic delivery equipment and monitoring instruments.
- Explain all aspects of anesthetic monitoring.
- Understand and integrate all aspects of patient management for common surgical procedures in companion animal species.
- Identify and provide appropriate instruments, supplies and environment to maintain asepsis during surgical procedures.
- Demonstrate understanding of routine surgical procedures including surgeries in these categories: ovariohysterectomy, cesarean section, orchidectomy, laparotomies, and other procedures.

Course Content

- Anesthesia and Anesthetic Monitoring
- Surgical Instruments
- Aseptic Technique
- Surgical Nursing
- Pain Management
- Large Animal Surgical Nursing
- Fluid Therapy
- Transfusion Medicine
- Types of Veterinary Surgery

Course Tasks

- Attend labs weekly as scheduled
- Be familiar with lecture content and other course materials prior to coming to lab
- Complete all required assignments
- Complete all required skills for the course
- Take the midterm laboratory practicum

Assessment Tasks and Grading

METHOD OF GRADING – ANSC 271L

In order to receive a passing grade for ANSC 271L, the student **must do** all of the following, **no exceptions**:

- Complete all required assignments
- Have all the required clinical skills for the laboratory section in the Accreditation Manager checked off (see page 34)

POINT VALUES

- Employability Skills and Work Ethic (see section under "student responsibilities") - 100 points
Deductions include but are limited to:
Problems with attendance, communication, and participation
- Clinical Skills - 100 points
- Laboratory exercises and assignments – 100 points
Deductions include but are not limited to:
Drug log errors, lab errors, pre- and post- checklists
- Practicum - 100 points

Clinical Skills: Students will be graded on clinical competency and improvement throughout the course. Some of the criteria for this score include:

- Performs skills competently and fluently
- Has good knowledge base for skills
- Shows improvement
- Is organized and ready to go
- Does calculations correctly

Assignments: Assignments will be given throughout the course. Each assignment will be clearly labeled if it is required, optional, take-home or in lab, point value etc. Unannounced quizzes may be administered at the beginning of lab to determine whether the student has the necessary knowledge to do a procedure.

Exams: A midterm practicum will be given with a total point value of 100. Identification and proper use of surgical instruments, proper set up of the anesthesia machine and ventilator, and other skills will be covered.

GRADING SCALE

Total Points and Grade Equivalent

>= 360	A
320-359	B
280-319	C
240-279	D
<240	F

Policy on Make-Up Exams:

Students must take the practicum at their scheduled time. Make-ups cannot be offered. **No retests will be given for any reason.**

ACADEMIC DISHONESTY

Students involved in academic dishonesty will receive an "F" grade for the course.

Academic dishonesty includes cheating on exams and plagiarism. See the 2015-2017 course catalog for a description of the University's policies concerning academic dishonesty.

Student Responsibilities

- The student is expected to participate in all course activities and complete all examinations and course assignments on time.
- Any changes in the course schedule, such as examination dates, deadlines, etc., will be announced ahead of time in class or on the Lualima website. It is the student's responsibility to be informed of these changes.
- It is the student's responsibility to be informed about deadlines concerning registration (e.g., last day for withdrawal).
- Communication: The instructor will communicate with students through email, the Lualima website and announcements in lab. It is the student's responsibility to be informed of any announcements made when the student is absent.
- It is the student's responsibility to obtain copies of any assignments handed out when the student is absent.
- It is the student's responsibility to be aware of and follow all rules, policies and procedures as stated in this syllabus, the laboratory handbook, signs posted in the Annex, the WCC Vet Tech Student Handbook (see additional information below), or via other written communication by the instructor. Failure to follow rules, or any UH/WCC policies, will result in a point deduction or failure of the course, as determined by the instructor. The instructor reserves the right to change, modify or add to rules during the semester if deemed necessary. Students will be notified in writing of any changes.
- **The student is expected to attend each laboratory session in its entirety (until dismissed by the instructor), participate in all course activities, and complete all examinations and course assignments on time. Cell phones are not to be used during the laboratory unless being utilized directly for patient care (i.e. to look things up, use the calculator or timer, etc.).**
- Students engaged in conduct that threatens themselves or others in the lab will be refused access to the lab for the remainder of the semester and receive an "F" grade for the course.
- Students are expected to be familiar with and follow the Standard Operating Procedures of the WCC Veterinary Technology Program. Violations of the SOP will result in a point deduction from the student's overall grade for the course. The instructor may also give demerits for such violations as provided for in the Student Handbook.
 - o Minor violation - 10 point deduction
 - o Major violation - 50 point deduction
 - o Second major violation or more than 3 minor violations - "F" grade for course

The student and the Program Director will be notified in writing of any violation resulting in a point deduction.

Employability Skills and Work Ethic

Points will be awarded based on subjective assessment of the student's ability to work well with others, maintain a respectful demeanor toward peers and instructors, and fulfill responsibilities.

Behaviors evaluated for this assessment include but are not limited to:

- Takes initiative for own learning.
- Helps out other team members
- Treats all members of the team with respect and courtesy
- Arrives for laboratory promptly and ready to go
- Responds cheerfully when asked to do a task
- Acts professionally and does not complain, gossip or talk about others in the profession (in or outside the program) during class or laboratory
- Accepts constructive criticism
- Follows instructions
- Asks for help or clarification when needed

The final score is completely at the discretion of the instructor; however, students will receive written feedback at the end of the course to provide an opportunity for self-improvement.

Attendance Policy

Attendance at the laboratory is mandatory. Only one excused absence is permitting. If a student has an emergency or is too ill to come to lab, they must contact the instructor and at least one team member as soon as possible. A doctor's note or other documentation of extenuating circumstances will be required for any absence within 48 hours of returning to class. Any additional absence will result in failure of the course.

Tracking. Attendance will be monitored using the AVImark practice management software this semester. It is the student's responsibility to remember to clock in and out of lab. If the student forgets to clock in, it will be assumed they were tardy/absent.

Tardiness. Students arriving more than ten minutes late (after 9:10am) must contact the instructor (please text) and a team member as soon as they know they will be late. It is up to the student to make up the missed work to teammates (i.e. take on an extra duty). The team should discuss with the instructor if an agreement cannot be reached. Points will be deducted for tardiness: 5 points for each time a student is tardy by 5 minutes or less; 10 points for each tardy between 5 and 15 minutes late; 15 points for being tardy greater than 15 minutes.

Penalties – Deduction from the employability grade

- Failure to contact team and instructor in case of absence or tardiness
- Failure to provide documentation for an absence
- Tardiness

Breaks. Students are allowed to take short breaks for a maximum of 15 minutes during the laboratory session to eat, smoke, use the restroom etc. provided all of the following conditions are met:

- There are no outstanding duties that need to be completed by the student's laboratory group at the moment
- The student notifies the instructor or instructor's assistant AND at least one laboratory partner where they will be

Dismissal. The instructor must review and approve paperwork before the team is dismissed for the day. Failure to follow the above procedures will result in point reduction from the grade.

Learning Resources

REQUIRED:

A wrist watch with second hand or digital second reading.

Small Animal Surgical Nursing: Tear M. Elsevier Mosby, St. Louis, MO. 2nd Edition.

Anesthesia and Analgesia for Veterinary Technicians: Thomas, J. and Lerche, P. Elsevier Mosby, St. Louis, MO. 5th Edition.

RECOMMENDED:

Veterinary Instruments and Equipment: A Pocket Guide: Sonsthagen, T. Mosby, St. Louis, MO. 3rd Edition.

Science Direct: science database available through the library learning commons link from the wee website or at <http://www.sciencedirect.com/>

Veterinary Anesthesia and Analgesia Support Group <http://www.vasg.org>. This is an extensive free resource, geared to the veterinary practitioner and nursing staff, covering all things related to anesthesia of the veterinary patient.

Additional Information

Laulima: Your instructor has created a Laulima website to accompany this course. This website contains lecture outlines, copies of course forms and syllabi, and links to on-line learning resources. Students enrolled in ANSC 271/271L are automatically enrolled in the ANSC 271/271L Laulima website. To access, go to <https://laulima.hawaii.edu/portal>. Login using your UH username and password and click on ANSC 271/271L.

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale 'Akoakoa 213 for more information.

ANSC 271L SURGERY LAB PROCEDURES

- o At 9:00am or when all patients have been dropped off, group meeting will be called by instructor to assign patients to teams and make announcements
- o Students work in assigned teams to perform pre-op physical exam and to run any necessary lab work.
 - **Please check with instructor before performing lab work. First year nursing students may have already done so.** Animals seven and older will have labs done routinely; younger animals will be tested if medically indicated.
- o Students will divide duties for the day as follows: circulating nurse, scrub nurse, and anesthetist. Each student should take on each role at least three times.
 - The circulating nurse will be responsible for cleaning and resetting the induction area after *prior* patient is moved to OR (for the first team of the day, the circulating nurse cleans the induction area after the *very last* patient goes into the OR), opening and passing supplies to the scrub team, prepping the patient for surgery, and assisting the scrub team and anesthetist as needed (including helping move patient to and from OR).
 - The anesthetist is responsible for induction, monitoring and maintaining of anesthesia, moving the patient to OR and to recovery, and monitoring the patient post-op.
 - The scrub nurse will scrub in with the doctor and assist in surgery, clean and reset the OR once the patient is moved to recovery, wash surgical instruments, fill out discharge papers, and fill medications to go home.
- o Students are to determine **ASA status** and start gathering the supplies needed for induction and surgery. Portable trays will be provided for each patient to help keep supplies in one place. Teams will select an anesthesia protocol and do the necessary calculations after approval from the instructor. **Induction agents will be determined at the beginning of class.**
- o Once any labs are reviewed and drug protocols/calculations are approved by the veterinarian, students will assist in drawing up and labeling drugs with patient name, drug name and quantity and recording them in the controlled drug log as necessary.
- o Procedures will be scheduled taking patient factors into account, but priority will be given to student teams who are ready to go first.
- o Each team must fill out discharge orders and fill meds to go home with their patient; wash their instruments; clean up their own messes, and clean their equipment and OR/recovery before dismissal.
- o When all procedures are finished, an assigned group will take responsibility for general cleanup and restocking. (There will be a posted schedule)

LABORATORY SAFETY RULES

- Be familiar with lab safety procedures and take appropriate precautions at all times to ensure the safety of other students, instructors and patients.
- Follow all instructions carefully, especially when hazardous materials are being used.
- Know the locations of important safety equipment: eyewash, safety shower, fire extinguisher, and first aid kit.
- Report **ALL** injuries, including scratches, needle sticks or ANYTHING that breaks the skin, to the instructor immediately. Fill out 'Incident' form if instructor determines it is necessary.
- Dress appropriately for lab. Closed-toe shoes and scrubs are required for ALL labs.
- Caps and masks must be worn when entering the OR. No nail polish or dangling jewelry may be worn in the OR.
- Report any hazardous conditions (e.g. chemical spills or broken glass) to the instructor immediately.
- **NO FOOD, DRINK, SMOKING OR VAPING ARE ALLOWED IN THE ANNEX**
- Chemicals used in lab may be poisonous, corrosive, or flammable. No chemicals, even those known to be safe, should be ingested or touched with un-gloved hands unless you are specifically directed to do so by your instructor.
- Know how to safely operate all lab equipment and tools (e.g., microscopes, scalpels, and hematology supplies). Safe usage will be demonstrated by your instructor.
- **Clean all lab supplies and return them to their proper location before leaving lab.**
- Treat all organisms, living or dead, with care and respect. Use gloves when handling dissected specimens.
- Place broken glass, sharps, and dissected specimens in the appropriate receptacles (NOT IN THE TRASH!)
- Unless otherwise instructed, chemical wastes should NOT be disposed of down the drain.
- Human and animal tissues and bodily fluids (e.g., saliva and blood) must be disposed of in appropriate bio-hazard containers (NOT IN THE TRASH!).
- Wash your hands immediately following each lab to reduce the possibility of contamination or infection.
- Syringes are not to be detached from needles for disposal. Place the entire needle and syringe in the sharps container.
- Microscope slides, the plastic attachment on IV infusion sets or any non-metal item that can potentially puncture a plastic trash bag must be placed in containers marked "Non-metal sharps." Any non-metal sharps contaminated with bodily fluids or biohazardous material is to be placed in the regular sharps container.
- If you are unsure about proper safety protocol, **ASK**.

Anesthesia Protocols for ANSC 271L

Examine patient, get TPR. Determine ASA physical status.

****ALL PATIENTS:** Draw up 1mg/kg lidocaine and 1mg/kg bupivacaine in same syringe, label with drug contents and patient name. Set aside for local nerve blocks.**

Unless otherwise noted, all premedication or induction combinations can be combined in same syringe.

Always verify doses with doctor before drawing up drugs

CAT Protocols

Premedication - Choose one Combination:

1. Morphine 0.5mg/kg and Acepromazine 0.06mg/kg - 0.1mg/kg IM
2. Morphine 0.5mg/kg and Midazolam 0.4mg/kg IM
3. Morphine 0.5mg/kg and Dexmedetomidine* 0.002-0.01mg/kg IM

* If needed, reverse Dexmedetomidine with Antisedan. Use same volume as dexmedetomidine and give IM. Can be given IV in an emergency. Draw up the proper quantity and have ready.

Buprenorphine 0.02mg/kg can be substituted for Morphine in any of the above combos

Induction - Choose One

4. Propofol at 4mg/kg given IV to effect over 90-120 seconds
5. Alfaxalone at 2-5mg/kg given IV to effect over 90-120 seconds
6. Ketamine and Midazolam at 0.5mL/10lbs of each drug (MAX 0.5mL total of each drug)

Maintenance on isoflurane titrated to effect

Analgesia/Pain meds: Give OnsiOR (robenacoxib) 2mg/kg SQ (give when Pre-medicating)

*****For cats/kittens <4 months old and < than 5.5 lbs; give:

Buprenorphine SR (0.12 mg/kg) SQ, give post-op (or Simbadol if in stock)

Feral or Fractious Cat Protocol:

Feral cats must NEVER be awake outside of the trap

Premedication: none

Induction: "Kitty Magic" –use all of the following, given together IM

Buprenorphine: 0.1mL/10lbs (of 0.3mg/mL)

Ketamine: 0.1mL/10lbs

Dexmedetomidine*: 0.1mL/10lbs

* If needed, reverse Dexmedetomidine with Antisedan. Use same volume as dexmedetomidine and give IM. Can be given IV in an emergency. Draw up the proper quantity and have ready.

Maintenance on isoflurane titrated to effect

Analgesia/Pain meds: Give OnsiOR (robenacoxib) 2mg/kg SQ (give when Pre-medicated)

*****For cats/kittens <4 months old and < than 5.5 lbs; give:

Buprenorphine SR (0.12 mg/kg) SQ, give post-op (or Simbadol if in stock)

DOG Protocols:

Premedication - Choose One Combination:

1. Morphine (0.5-1.0mg/kg) and Acepromazine** (0.01-0.05 mg/kg) IM
2. Morphine (0.5-1.0mg/kg), Dexmedetomidine* (0.002-0.005mg/kg) and Midazolam (0.2-0.4mg/kg) IM
3. Morphine 0.5-1mg/kg and Midazolam 0.2mg/kg IM

**Maximum dose of acepromazine is 3mg

Buprenorphine 0.02mg/kg can be substituted for Morphine in any of the above combos

* If needed, reverse Dexmedetomidine with Antisedan. Use same volume as dexmedetomidine and give IM. Can be given IV in an emergency. Draw up the proper quantity and have ready.

Induction - Choose One:

1. Propofol at 4mg/kg given IV to effect over 90-120 seconds
2. Alfaxalone at 2-5mg/kg given IV to effect over 90-120 seconds
3. Ketamine and Midazolam at 0.25mL/10lbs of each drug IV

Maintenance on isoflurane to effect.

Analgesia/Pain meds: Rimadyl 1 MG per pound (or 2.2mg/kg) SQ (give when pre-medicating)
Or Meloxicam 0.1 - 0.2 mg/kg SQ

For nervous or fearful (aggressive) dogs and/or an additional anesthetic protocol, see attached 'Doggie Magic' dose chart.

INDUCTION CHECKLIST

- o Appropriate sized endotracheal tubes (3 size options)
- o Gauze square
- o Gauze for tying or IV line tubing
- o Induction drugs (labelled syringes)
- o O2 is on
- o Anesthetic machine leak test
- o Anesthetic machine properly equipped
- o Patient warming device(s)
- o Lidocaine/bupivacaine (for local nerve blocks) – labelled syringe
- o Lidocaine 0.1 ml (for intubating cats) – labelled syringe
- o Laryngoscope (with Appropriate sized Blade)
- o Flush (labelled)
- o IV Catheter – all placement supplies
- o IV fluids (ready to attach)
- o Eye lubricant
- o Clippers
- o Scrub
- o Anesthesia monitoring form
- o **Do you have to go to the bathroom?**

Pre Surgery Checklist Date: _____

Responsibility of Admissions Team

Kennel check:

_____ Name cards on runs/cages

_____ Patients walked

_____ Runs/cages cleaned

_____ Water bowls removed

Induction area **and** Surgical Suite check:

_____ OR is clean

_____ Packs, gowns, drapes - sterile and available in OR

_____ SX supplies available – suture, blades, etc.

_____ Emergency medications available

_____ Warming sources ON

Anesthesia Machine(s):

_____ O2 supply ON & quantity sufficient (note on sx board)

_____ Scavenge system ON

_____ Soda Lime filled/fresh

_____ ISO filled

_____ Ax Machine attached to O2 source and Leak checked

Monitor(s):

_____ All leads attached and operational

Pre-Surgery Checklist Per Patient

Name: _____

_____ Peri-operative supplies located

(muzzles, eye lube, clippers, nail trimmers, ear cleaner, etc.)

_____ ID and Procedure confirmed

_____ Weight and TPR recorded

_____ Reservoir bag & breathing system calculated & attached

_____ Fluids calculated & pump set up

_____ Bloodwork run and shown to DVM

_____ Patient examined by DVM

_____ Drugs calculated and verified by DVM

_____ Drugs drawn up, labeled, **and** logged

_____ Pre-meds given

_____ (3) sizes of ETTs leak checked

_____ IV Catheter placed

Post Surgery Checklist Date: _____

Treatment area **and** Surgical Suite check:

- _____ Wash and wraps all Instruments
- _____ Wipe down all surfaces with Roccal, Trifectant
- _____ All supplies put away
- _____ Start surgical laundry
- _____ Start autoclave
- _____ Anesthesia machines O2 and Vaporizers OFF
- _____ O2 supply OFF & quantity noted
- _____ Scavenge system OFF
- _____ Monitors off and all leads stowed
- _____ Radiology shut down

____ Wet tables cleaned

____ OR floors swept

____ OR floors mopped (red handle mop/bucket)

____ TX floors swept

____ TX floors mopped (blue handle mop/bucket)

____ Trash emptied – bags go out to curb

____ Biohazard trash closed loosely with twist tie and
marked with autoclave tape

Post Surgery Checklist Per Patient

Name: _____

—

_____ Patient sternal and temp > 98°

_____ Post-op pain meds given

_____ Catheter removed

_____ Incision site checked

_____ Patient clean and brushed

_____ Discharge paperwork filled out

_____ Meds to go home filled

_____ E-collar placed if necessary

_____ Surgery paperwork reviewed and approved by DVM

_____ All pressure bandages removed

American Society of Anesthesiologists (ASA)

Physical Status Classification System

ASA Physical Status 1 - A normal healthy patient

ASA Physical Status 2 - A patient with mild systemic disease (including neonates and geriatric)

ASA Physical Status 3 - A patient with severe systemic disease

ASA Physical Status 4 - A patient with severe systemic disease that is a constant threat to life

ASA Physical Status 5 - A moribund patient who is not expected to survive without surgery

271 Lab Schedule: Subject to Change

Date	
August 24 & 25	Lab Safety Scavenger Hunt SOP assignments
August 31 st & September 1 st	Pack Wrapping, Autoclave, Introduction to Surgical Instruments and Instrument Cleaning SOP presentations
September 7 th & 8 th	Gowning & Gloving, Scrubbing Gown folding & wrapping Suture patterns
September 14 th & 15 th	Anesthesia machine & CPR Anesthesia monitoring forms, etc...
September 21 st & 22 nd	Surgery (2 surgeries)
September 28 th & 29 th	Surgery (4 surgeries)
October 5 th & 6 th	Surgery (4 surgeries)
October 12 th & 13 th	Surgery (4 surgeries)
October 19 th & 20 th	Practicum
October 26 th & 27 th	Surgery (4 surgeries)
November 2 nd & 3 rd	Surgery (4 surgeries)
November 9 th & 10 th	Surgery (4 surgeries)
November 16 th & 17 th	Surgery (4 surgeries)
November 23 rd & 24 th	No Lab
November 30 th & December 1 st	Surgery (4 surgeries)
December 7 th	Lab Clean-up

Skills Checklist for ANSC 271L.

Name: _____

Instructor initials must be obtained on the day procedure was performed.

Skill	Patient	Date	Instructor Initials
Apply Elizabethan Collar			
Spay Participation (DOG)			
Spay Participation (CAT)			
Neuter Participation (DOG)			
Neuter Participation (CAT)			
Position patient for common procedures			
Demonstrate proper OR conduct and asepsis			
Assist with care of exposed tissues and organs			
Properly handle and pass instruments and supplies			
Record and maintain operative/surgical records			
Coordinate pain management with the anesthesia/surgical team			
Suture removal			
Provide adequate post-operative nutrition			
Post operative wound management			
Post operative care: bandaging			
Complete discharge instructions			
Prepare surgical instruments and supplies			
Prepare gowns, masks, gloves and drapes			
Operate and maintain autoclaves			
Sterilize instruments and supplies			
Perform post-surgical clean up			
Group Skills			
Crossmatch for blood transfusion			
Administer enemas			
Catheterize male dog			
Gastric intubation			