1 Course Details

1.1 Calendar Description

The principles of surgery in various animal species are given. The lecture topics include patient and surgeon preparation, tissue handling instrumentation, suturing and surgical principles and approaches to various organ systems and anatomical regions.

Pre-Requisites: All Phase 1 courses.
Co-Requisites: All Phase 2 courses.

1.2 Course Description

This course is an introduction to basic and advanced principles of veterinary surgery. More specifically, the lecture topics include patient and surgeon preparation, asepsis in surgery, tissue handling, instrumentation & suturing. In addition to surgical principles, this course introduces the techniques for abdominal exploration and abdominal organ biopsy, principles of orthopedic surgery and bandaging techniques, principles of oncologic surgery, ovariohysterectomy and castration procedures as well as principles and practical techniques in dentistry.

This course consists of lecture sessions, independent website study with web-based assignments, a mastery list assignment as well as 8 practical laboratory sessions.

1.3 Timetable

Timetable is subject to change. Please see WebAdvisor for the latest information.

1.4 Final Exam

Exam time and location is subject to change. Please see WebAdvisor for the latest information.
2 Instructional Support

2.1 Instructional Support Team

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3 Learning Resources

Course notes will not be printed. Please refer to CourseLink for course notes and/or Powerpoint presentations. Please refer to Small Animal Surgery (Theresa Fossum, Mosby, 5th edition 2018) as a written reference. Earlier editions are also acceptable to review these basic concepts. Portions of the http://www.uoguelph.ca/vetsurgery/ website will be necessary to complete the quizzes and to support the first 9 lectures in this course. It is expected that the reading list provided on CourseLink will be followed and the independent times assigned in the schedule can be utilized for this work.

A DASIE along with basic instrumentation (one pair of needle drivers, a thumb forceps, a mosquito hemostat and Mayo and/or suture scissors) as provided/purchased in Phase 1 are required to perform the independent suturing laboratory exercises during online review and for the practical laboratory sessions. The DASIE™ model will be graciously provided by Boehringer Ingelheim (Metacam®). Instruments (at minimum 1 Adson type thumb forceps, 1 Mayo- Hegar needle holder, 1 curved mosquito forceps, 1 Mayo scissor +/- 1 sharp-blunt suture scissor +/- Carmalt or smaller type hemostatic clamps to practice OHE) will need to be purchased by students from the provider of their choice (if this was not already done in Phase 1).

For students who cannot afford or do not wish to purchase your own instruments, please contact the clinical laboratory instructors to arrange to borrow instruments. There are a limited number available.

***When borrowing the instrument set, the student acknowledges that he or she will owe $50 (for replacement) should the instruments be lost, broken or fail to be returned as a complete set.***

4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. **Unit: Surgical instrumentation, suture materials and patterns**

   The student will be able to:

   **Surgical instruments:**
• Identify various components of surgical instruments.
• Identify commonly used instruments (components of a basic surgical kit).
• Understand the correct and incorrect handling of commonly used surgical instruments.
• Discuss the use of and indication for commonly used surgical instruments.

Suture materials:

• Name the most common absorbable and non-absorbable suture materials.
• Compare the advantages and limitations of absorbable and non-absorbable suture materials.
• Compare the advantages and limitations of monofilament and braided suture materials.
• List the indications and contraindications of various suture materials.
• Identify and list various needle types.
• Discuss the qualities, indications and contraindications for various needle types.
• Describe how to handle suture as it comes out of a suture pack.
• Discuss the use of surgical staples and surgical adhesives.

Suture patterns:

• Describe the most common suture patterns.
• Understand the principle of and how to achieve a square knot.
• Understand the concept of a ‘slip’ and ‘granny’ knot.
• Understand the principles of how to place a simple interrupted and continuous suture pattern.
• Compare the advantages and limitations of continuous and interrupted suture patterns.
• List the indications and contraindications for the common suture patterns

2. Unit: Asepsis
The student will be able to:

**Preparation of the surgical patient**

- List and describe the steps involved in patient preparation for a surgical procedure.
- List and describe the indications and contraindications for different hair removal techniques.
- List disinfectants that are commonly used for patient skin preparation (iodine, alcohol, chlorhexidine).
- Compare the characteristics of disinfectants that are commonly used for patient skin preparation.
- Describe surgical site scrub techniques.
- Describe surgical draping procedures.

**Preparation of the surgical team:**

- List and describe the steps involved in surgeon hand preparation.
- List disinfectants that are commonly used for skin preparation.
- Compare the characteristics of commonly used disinfectants (iodine, alcohol, chlorhexidine).
- Compare characteristics of paper and cloth drapes and gowns.
- List the indications for proper surgical attire (hat, mask, gown and gloves).
- Recognize sterile and unsterile portions of a surgical gown.
- Describe surgical draping techniques.
- Describe strike through.

**Sterilization techniques:**

- List and describe the various sterilization procedures used on surgical equipment.
- Describe the indications, qualities and limitations of each method of sterilization.
• List methods used to confirm the sterility of instruments or surgical packs.
• Describe the use and limitations of various sterilization indicators.

3. Unit: **Principles of Abdominal Surgery**

   The student will be able to:

   • Describe common surgical approaches to the abdominal cavity.
   • Identify the advantages and limitations of common surgical approaches to the abdominal cavity.
   • Identify and list the indications of common surgical approaches to the abdominal cavity.
   • List the principles of abdominal incision and closure techniques.
   • Describe potential postoperative complications associated with abdominal closure and healing and how to handle those clinically.
   • Describe the steps of a complete exploratory laparotomy.
   • Describe the general principles of various abdominal organ biopsy technique

4. Unit: **Bandaging**

   The student will be able to:

   • Name and describe the function of the different layers of a bandage.
   • Describe the principles of application of the different layers of a bandage.
   • Describe the potential complications associated with bandages.
   • Describe the pathophysiology and the treatment of these complications.

5. Unit: **Principles of Surgical Oncology**

   The student will be able to:

   • Describe common surgical principles that apply to oncologic surgery.
• Identify the role of surgery in the diagnosis, palliation and cure of cancer.
• List the indications for surgical intervention in a cancer patient.
• List the contraindications for surgical intervention in a cancer patient.
• List the causes of treatment failure and contraindications for surgical intervention in a cancer patient.
• Describe the principles of incisional and excisional biopsy.

6. Unit: Ovariohysterectomy

The student will be able to:

• Describe the indications, advantages and potential disadvantages to performing OHE.
• Describe the surgical preparation required for ovariohysterectomy in dogs and cats.
• Describe the surgical approach for ovariohysterectomy (OHE).
• Describe 3 methods available to identify the genital tract during OHE.
• Understand and describe how to use of a spay hook to retrieve the genital tract.
• Understand and describe the steps to involved in performing an ovariohysterectomy
  Using a modified 3-clamp technique
  Using a 3-clamp technique
  Options to safely ligate the ovarian pedicles and uterine body.
  Options to address the broad ligament.
• Describe potential intraoperative complications associated with OHE.
• Describe how to identify and retrieve a bleeding pedicle.
• Describe potential postoperative complications associated with OHE.
• Describe technical considerations associated with performing an OHE in an animal that is in heat or pregnant or has pyometra.

7. Unit: Canine and feline castration

The student will be able to:
• Describe the indications, advantages and potential disadvantages to performing castration.
• Describe the surgical preparation required for castration in dogs and cats.
• Describe the surgical approach for feline and canine castration.
• Describe the difference between open and closed castration techniques.
• Understand and describe the steps involved in performing a feline and canine castration.
• Understand and describe the differences in techniques used to perform canine and feline castration.
• Describe the two techniques for feline castration (figure of 8 vs knots).
• Describe the possible intraoperative complications associated with feline and canine castration.
• Describe the possible postoperative complications associated with feline and canine castration.

8. Unit: Prophylactic antibiotics in surgery

The student will be able to:

Classification of surgical wounds

• Describe the various types of wounds and identify which wounds would benefit from antibiotic treatment.
• Identify a specific type of wound based on a given case scenario.

Factors that influence the postoperative infection rate

• List the factors associated with surgical procedures that influence the development of postoperative infections.

Bacteria normally encountered in surgical patients

• Name bacteria commonly encountered in various tissues.
• Name an effective preventative antibiotic based on a given case scenario.

**Institution and duration of antibiotic prophylaxis**

• Identify the most efficacious time to start prophylactic antibiotic therapy based on a given case scenario.
• Determine an adequate duration of treatment based on a given case scenario.

**Complications of antibiotic prophylaxis.**

• Discuss the complications associated with indiscriminate antibiotic use, including shedding of resistant organisms and superinfection.

9. **Unit: Introduction to fracture fixation and coaptation**

**The student will be able to:**

**Fracture healing**

• Describe the blood supply to bone in the normal, fractured and healing states.
• Describe the effect of blood supply variations on fracture healing.
• Recognize and describe the three forms of bone healing and the conditions leading to each one.
• Describe the concept of strain and apply this concept to secondary bone healing.
• Identify and describe complications of bone healing.
• Formulate guidelines for the correction of the principle conditions delaying bone healing.

**Fracture repair**
• Name the different forces acting on the bone.
• Discuss the importance of these forces when repairing a fracture.
• Discuss the relative strengths and weaknesses of each type of implant with respect to these forces.
• Describe the principles, indications, contraindications and risks associated with external coaptation.
• Describe the principles, indications, and contraindications of external fixation.
• Describe the biomechanical principles that make an external fixator effective.
• Discuss the principles, indications, contraindications and the risks associated with the use of intramedullary pins, cerclage wires, interlocking nails, bone screws and bone plates.
• Name the different types of bone plates and explain their respective indication

10. **Unit: Independent Suture Lab (Independent learning using website materials and DASIE)**

**The student will be able to:**

**Basic instrument handling**

• Perform and demonstrate correct surgical instrument handling.

**Knot tying**

• Create square knots using instrument tying techniques.
• Place circumferential and transfixing ligatures on a pedicle.

**Interrupted suture patterns**

• Perform and demonstrate the most common interrupted suture patterns
(simple interrupted, cruciate, vertical mattress and horizontal mattress patterns) using correct surgical techniques.

**Continuous suture patterns**

- Perform the most common continuous suture patterns (simple continuous, Lembert, Cushing, and Ford interlocking patterns) using correct surgical techniques.

**Suture materials**

- Identify common suture materials.
- Describe the advantages and limitations of common suture materials

11. **Unit: Practical Laboratory Sessions**

**Laboratory 1: Asepsis & Suturing I**

**The student will be able to:**

- Correctly open a gown pack and a glove pack using aseptic technique.
- Perform hand preparation using correct technique.
- Perform correct hand drying and gowning using sterile technique.
- Perform closed gloving using sterile technique.
- Demonstrate the placement of square knots and buried starting and finishing continuous knots while wearing sterile gloves.
- Identify the simulated layers of DASIE.
- Explain which suture pattern is indicated for closure of an abdominal incision.

**Laboratory 2: Asepsis & Suturing II, Draping**
The student will be able to:

Perform patient preparation using a model.

- Correctly open a drape and laparotomy sheet pack.
- Perform open gloving (wearing a gown).
- Perform corner draping of a DASIE model using correct, sterile technique.
- Apply a laparotomy sheet using sterile technique.
- Demonstrate ligating pedicles, bleeding vessels and uterine body (circumferential and transfixing sutures)
- Demonstrate techniques for gentle tissue handling

Laboratory 3: Asepsis, draping & suturing III

The student will be able to:

- Perform patient preparation using a model.
- Correctly open a gown pack and a glove pack using aseptic technique.
- Correctly open a drape and laparotomy sheet pack using aseptic technique.
- Correctly open an instrument pack using aseptic technique.
- Perform hand preparation using correct technique.
- Perform correct hand drying and gowning using sterile technique.
- Perform closed gloving using sterile technique.
- Perform draping of a DASIE model using correct, sterile technique.
- Apply a laparotomy sheet using sterile technique.
- Perform a surgical incision using a scalpel blade.
- Demonstrate the correct placement of square knots.
- Demonstrate the placement of simple interrupted and continuous suture patterns using correct instrument handling and surgical technique.

Laboratory 4: Bandaging
Soft Padded Bandage

The student will be able to:

- Discuss the indications and implications of using a soft padded bandage
- Describe the layers that compose a soft padded bandage
- Demonstrate how to place a soft padded bandage correctly considering: layers, appropriate pressure location, body part etc.
- Discuss how bandaging with an open wound affects the primary layer and follow-up care
- Understand basic bandage management principles and how to communicate these principles to owners

Tie-over Bandage The student will be able to:

- Demonstrate all of the above plus:
- Describe how a tie-over bandage differs from other bandages in its purpose, preparation, materials, maintenance and care
- Understand that a bandage is a temporary not a permanent solution and part of open-wound management
- Describe what sterility factors to consider for placing and managing this bandage
- Discuss the intensive nature of managing a tie-over bandage.

Soft padded bandage + splint:

The student will be able to:

1. Demonstrate all of the above plus:
2. Discuss the advantages and disadvantages to using different types of splints and how to select the appropriate type and length of splint for a given patient
3. Demonstrate how to apply the splint correctly and how to incorporate the splint into the bandage
Fiberglass cast:

The student will be able to:

1. Demonstrate all of the above plus:
2. Demonstrate the application and handling of fiberglass cast
3. Describe the use of appropriate personal protective equipment- gloves, goggles (for removal)
4. Discuss the options for pre-casting material (stockinette vs. other)
5. Explain how to bivalve and safely remove the fiberglass splint using an oscillating cast saw
6. Understand that rapidly growing animals or wounds affect the number of bandage changes and care

Laboratory 5: Surgical Oncology

The student will be able to:

- Identify skin tension lines and appropriate direction of skin closure after mass removal.
- Understand the concept of lateral margin measurement.
- Understand the concept of and how to identify deep fascial planes.
- Perform incisional and excisional biopsies using a punch biopsy instrument and a scalpel blade.

Laboratory 6: Daisy OVH + OVH model creation

The student will be able to:

- Identify all important anatomic structures encountered during OVH
- Design and create an OVH model to be used in the lab
- Complete all the tasks from laboratory 3 (except patient preparation)
- Correctly approach the abdominal cavity of a DASIE model for
ovariohysterectomy.
• Perform an ovariohysterectomy on a DASIE model using a modified 3-clamp technique.
• Correctly perform a 3-layer abdominal wall closure.

Laboratory 7 & 8: Dentistry

Lab 7

The student will be able to:

Anatomy, nomenclature, physical exam of oral cavity, head and neck, introduction to charting

• Identify and name by the triadian system, all deciduous + adult teeth of the dog/cat.
• Describe the number of deciduous and adult teeth, and how to distinguish the difference between them.
• Describe the landmarks of 4/8/9
• Identify the anatomical location of the relevant nerves and blood vessels in relation to risk factors for dentistry (as covered in the lab)
• Explain the different terminology and grades of oral malocclusions.
• Perform a systematic physical exam of the head and oral cavity as part of the COHAT Comprehensive Oral Health Assessment.
• Complete all sections of a dental chart including filling out the physical exam
• List the acronyms for periodontal disease
• Practice grading of periodontal disease

Periodontal disease, introduction to radiographic interpretation, charting continued

• Identify and classify different components of periodontal disease from photos and simulated models.
• Perform the correct grading of periodontal disease.
• Practice basic Radiographic Interpretation-distinguish between a deciduous and adult tooth
• Discuss how periodontal disease appears radiographically for common lesions such as abscess, furcation, broken tooth, resorptive lesions
• Complete all sections of a dental chart including filling out the physical exam
• List the acronyms for periodontal disease
• Practice grading of Periodontal disease

Equipment, scaling + polishing, charting continued

• Identify and properly handle and use scalers, curettes and polishers.
• Identify risk factors for inappropriate use of the dental instruments.
• Discuss importance of sharpening/care, sand/oil and angles and identifying when instruments need to be sharpened.
• Explain the process of performing a thorough dental cleaning: chlorhexidine flush, supragingival scaling, subgingival curettage, subgingival polishing
• Understand how to determine if the dental cleaning has been done thoroughly and appropriately
• Complete all sections of a dental chart including filling out the physical exam
• List the acronyms for periodontal disease
• Practice grading of Periodontal disease

Lab 8

The student will be able to:

Radiology positioning, parallel and bisecting angles, radiation safety

• Practice appropriate animal positioning for dental radiographs.
• Explain the theory of parallel and bisecting angles
• Position the cone and predict the outcome of the radiograph
• Understand concept of foreshortened and lengthened angles during interpretation of the dental radiograph
• Discuss the importance of radiation safety and personal protective equipment.
• Describe what is a good quality vs. a poor quality dental radiograph.
• Understand the importance of whole mouth radiographs
• Identify digital radiograph equipment types/options

Techniques for dental block, analgesia, drug calculations

• Name and locate the four major dental blocks
• Know the anatomical areas affected by each block
• Discuss the specific techniques of each blocking site and risks for dogs and cats
• Discuss drugs used for analgesia, dose and concentration
• Calculate the toxic dose of local analgesics

"Humane toothanasia" aka extractions

• Identify indications for extractions
• Identify the anatomy of tooth being extracted (number of roots, surrounding structures; vessels, nerves etc.)
• Describe the steps that may be involved to extract a tooth: Gingival flap, bone debridement, tracing of the periodontal ligament, elevating and suturing gingiva.
• Practice extracting a tooth from the simulator

5 Teaching and Learning Activities

Independent Study

The online quizzes, dentistry modules, mastery lists and preparation for the laboratory sessions will be performed outside of didactic and lab teaching and you have been provided with some time in your schedule to help facilitate this work but additional time will be required so please plan accordingly. For the online quizzes, a surgery website
(http://www.uoguelph.ca/vetsurgery/) has been designed to provide didactic information, images and current video clips to enhance learning and complement the topics discussed in class. A variety of information is available on this site so a ‘Principles of surgery’ map is provided to help you navigate through the sections that are required for this course. Other materials found on this website are available for extra-curricular review – you are welcome to explore but do not need to review all of it right now!

**Quizzes**

Independent review and study of the relevant website sections (http://www.uoguelph.ca/vetsurgery/) as well as the lectures will be required to complete the Courselink quizzes. Deadlines and grades for the quizzes are listed online.

**Mastery Lists**

Mastery lists have been designed to help direct student learning. There will be drop-in sessions offered by the clinical skills instructors (see schedule online) if additional assistance is required to master the topics included in these lists. Lists should be submitted on Courselink through the dropbox feature with the associated due dates.

**Suture Mastery List**

Completion of the self-directed ‘Suture Mastery List’ will allow you to practice your suturing techniques in preparation for the practical laboratory sessions. You are expected to practice a series of suture patterns on your DASIE using the surgery website as a reference – you can work in teams if you wish. **It is expected that you will arrive at Lab 3 prepared to demonstrate the skills listed on the mastery list to one of the instructors by the end of the lab.** You are encouraged to practice in advance with your classmates and perform the suture patterns together; this will allow you to ‘critique’ each other’s technique and possibly help each other with any difficulties. There will be 3 drop in sessions (see courselink) in advance of this lab that you can attend for assistance if you are having trouble with any of the patterns.

**Surgical Asepsis Mastery List**

The surgical asepsis mastery list contains a list of procedures that should be observed by each student. The objective of this exercise is to familiarize the student with common surgical preparation techniques and to give the student the opportunity to see these procedures being performed on a ‘real-life’ patient in a clinical context. It also allows students to witness how the phase 3 spay and neuter labs run. **This task can be performed during any 3rd year spay / neuter session at the CCRF (Tuesdays & Thursdays from mid October-**
November and January-March at ~8am). Allow 1 to 1.5 hours for your visit at the CCRF. **Attendance at the CCRF is limited to 5 people per session due to space restrictions. A sign up sheet will be organized by the Course Rep – you will get an email! Please sign up early and plan ahead for a date that is convenient for you and fits in your class schedule.

**Surgical scrubs and a lab coat are required to enter any of the surgical areas.** The CCRF building has restricted entry so you will need your proximity access card to enter. **Note that there is no storage area in the clinic and CCRF building and that outside shoes cannot be worn in the prep room or surgery area so please bring a pair of indoor shoes when attending your session.**

**Practical Laboratory Sessions**

**Self-Assessment Assignments**

You will be required to complete a self-assessment after completion of labs 4, 5, 6 and 8. These assessments, in combination with your lab participation, will form your grade for this aspect of the course. These assessments have been designed to have you reflect on your learning as compared to the learning outcomes for each of these sections. If you feel that you have not adequately achieved any of the learning outcomes, drop-in clinical skills sessions will be offered monthly to help you achieve these outcomes. Self assessments will be due 1 week after the completion of your lab and submitted through Courselink.

**Labs**

Faculty, veterinarians and technicians will be available to teach, provide feedback and to answer any questions during each laboratory session. Supervising faculty and veterinarians will assess each student’s preparation, knowledge of the procedures to be performed and skills demonstrated during the exercise.

**Attendance and preparation for at all labs is mandatory. Assessment for laboratory participation will be in the form of the online quizzes, mastery lists and self assessments. SCRUBS MUST BE WORN TO ALL LABORATORY SESSIONS.**

You have been provided with independent study time in advance of the labs to review the material. Please come prepared having watched the videos and reviewed the materials online (Courselink, veterinary surgery website) because we will have limited time to review the material prior to starting the practical component of the lab.
*Bring your own DASIE and instruments for laboratories # 1,2,3 and 6

***You are expected to attend your assigned lab section. If you cannot attend your assigned section, you must switch spots with one of your classmates. Due to the design of the labs we cannot accommodate additional students in the lab sections and make-up laboratory sessions are not possible therefore a missed laboratory will lead to losing the experience. The Course Coordinator will determine what remedial activity will be required of students who miss a lab and have received academic accommodation through the Associate Dean, Students. Students that miss a lab and have not been granted accommodation will not receive any the grades associated with that section.

5.1 Lecture

Topics: Introduction to 3510

References: Instructor- Oblak

Brief introduction to the course and website and opportunity for questions – *Please review the course outline prior to this session and attempt to log into the dentistry modules*

Topics: Lecture 1

References: Instructor- Gibson

Review of surgical instruments and suturing

Topics: Lectures 2 & 3

References: Instructor- Oblak

Surgical asepsis I & II

Topics: Lectures 4 & 5

References: Instructor- MacIver

Principles of abdominal surgery I & II

Topics: Lecture 6
References: Instructor- Maclver
Exploratory laparotomy

Topics: Lecture 7

References: Instructor- Maclver
Basic organ biopsy techniques

Topics: Lecture 8

References: Instructor- Maclver
Complications of abdominal surgery

Topics: Lecture 9

References: Instructor- Moens
Basic principles of bandaging

Topics: Lectures 10 & 11

References: Instructor- Oblak
Principles of surgical oncology I & II

Topics: Lecture 12

References: Instructor- Oblak
Feline and canine castration

Topics: Lecture 13

References: Instructor- Oblak
Feline and canine ovariohysterectomy
Topics: Lecture 14

References: Instructor- TBD

Introduction to minimally invasive surgery

Topics: Lecture 15

References: Instructor- Singh

Use of antibiotics in surgical patients

Topics: Lectures 17 & 18

References: Instructor- Moens

Orthopedic exam and introduction to fracture fixation and coaptation

5.2 Seminar

Topics: Independent time 1

References: Instructor- Oblak

Review of Course Outline, courselink and log into online dentistry modules

Topics: Independent times 2-4

References: Instructor- Oblak

Instrumentation online study assignment & Quiz 1 will close September 24, 2019 at 11:59 PM

Suture materials, suture patterns & Tips and tricks on suturing online study assignment & Quiz 2 will close Monday October 8, 2019 at 11:59 PM

Principles of asepsis online study assignment & Quiz 3 will close Monday October 8, 2019 at 11:59 PM
Topics: Independent time 5, 6

References: Instructor- Oblak

Review asepsis, suturing and draping in preparation for Labs 1-3 (lecture notes, courselink, veterinary surgery website)

Topics: Independent times 7,8,10

References: Instructor- Joy/Gillan

Dentistry Online Modules

Topics: Independent time 9,11

References: Instructor- Joy/Gillan

Clinical Skills Drop-In Session to review asepsis, suturing, etc.

Topics: Independent time 12

References: Instructor- Moens

Online review (Courselink) of bandaging videos in preparation bandaging lab

Topics: Independent time 13

References: Instructor- Oblak

Online review (courselink) of surgical oncology videos and lab manual

Topics: Independent time 14

References: Instructor-Oblak

Online review (Courselink & veterinary surgery website) of anatomy, ligature placement and ovariohysterectomy videos in preparation for DASIE model making and spay laboratory. Also review opening and closing the abdominal cavity
5.3 Lab

**Topics:** Laboratory 1: Asepsis + Suturing (2hr) *Review the relevant videos prior to this lab session.

This mandatory two-hour session will allow students to experience and practice the steps involved in aseptic surgeon preparation: specifically how to open a gown pack and a pack of gloves steriley, how to perform hand scrubbing, gowning, closed gloving and basic suturing review.

**Topics:** Laboratory 2: Asepsis, Draping + Suturing 2 (2hr) *Review the relevant videos prior to this lab session.

This mandatory two-hour session will allow students to experience and practice the steps involved in patient preparation: specifically how to perform skin preparation (using a plastic model), how to open a drape and laparotomy sheet pack steriley, and how to perform patient draping with application of a laparotomy sheet (using a DASIE model), and additional suture technique practice.

**Topics:** Laboratory 3: Asepsis + Suturing 3 (3hr) *Review the relevant videos prior to this lab session.

This mandatory three-hour session will put all the tasks learned thus far together and will allow students to experience and practice the following: Open an instrument pack, open a gown and laparotomy sheet pack, open a suture pack, blade and glove pack. The student will perform all the steps involved in surgeon preparation (hand scrubbing, gowning and gloving), final preparation of the patient and patient draping with application of a laparotomy sheet. The student will set up an instrument table, safely install (and eventually remove) a blade on a scalpel handle, practice basic suturing skills (secure square knots in simple interrupted and continuous patterns +/- buried knot) and perform safe disposal of sharps at the end of the lab. The suturing mastery list will be completed during this lab session.

**Topics:** Laboratory 4: Bandaging (2hr) * Review the bandage videos and self-study materials posted on Courselink.

This mandatory laboratory session will allow students to practice placing light padded bandages, tie-over bandages, splints and cast on a canine leg model. Complications associated with bandages and their prevention will be discussed in lecture. Please review the self-study case presentations prior to the lab and be prepared to discuss indications of the different bandage types during the session.

**Topics:** Laboratory 5: Surgical Oncology (2hr) *Review the relevant video and lab manual prior to this lab session.
This mandatory 2-hour session will allow students to learn and practice basic surgical oncology principles and techniques. During the lab, the student will practice identifying skin tension lines and the appropriate direction of closure of skin wounds, discuss and identify fascial planes in various locations and practice incisional and excisional biopsy techniques.

**Topics:** Laboratory 6: DASIE Ovariohysterectomy (4hr) + Model making pre-lab (1hr)

This mandatory four-hour session will allow students to perform all the tasks they have learned thus far (see laboratory 3) and in addition will allow students to experience and practice the steps involved in performing a modified 3-clamp ovariohysterectomy using a string and bead model within a DASIE. Each student will attend a 1hr pre-lab session where they will make their own DASIE spay models. This session will help students review and understand the anatomy of the genital tract and the steps involved in the procedure.

**Topics:** Lab 7 & 8 Dentistry (3h) *Review the relevant lab materials on courselink prior to this lab session.

These 2 mandatory 3 hour labs will allow students to become familiar with dental anatomy, nomenclature, physical exam of oral cavity & head and neck, charting, periodontal disease, radiographic interpretation, equipment, scaling + polishing, radiology positioning, radiation safety, techniques for dental block, analgesia, drug calculations and dental extractions

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### 6 Assessments

Assessment will include: online quizzes (3%), mastery list completion (4%), dentistry online modules (3%), laboratory participation and self-assessment completion (20%), a midterm (20%) and a final examination (50%). Completion of all quizzes, mastery lists, modules, self assessments and formative assessments are required for successful completion of the course, unless academic consideration has been granted.

**On-line computer quizzes** must be completed according to the schedule posted on Courselink. There are 3 computer quizzes, worth in total 3% of the final mark. Each quiz must be completed on time with a minimum grade of 70% in order to obtain marks towards the final grade. If a grade < 70% is obtained, the online quiz can be repeated once. Computer quizzes can be completed using the course materials and with classmates as long as everyone involved participates in the thought process. Online quizzes will be in the form of true or false and multiple-choice questions.

**Mastery lists** must be completed according to the schedule posted on Courselink and submitted prior to the assigned deadlines.
Dentistry online modules must be completed prior to December 8, 2019. A passing grade on each of the quizzes for modules 1-6 is required to receive a score for these modules. The quizzes can be completed using the module materials and with classmates as long as everyone involved participates in the thought process. Please ensure that you have your login information and start the modules early in the semester. Due to restrictions in the license, these quizzes will not be available after December 8th and failure to complete any portion of these modules will result in a grade of 0.

Laboratory participation and self-assessment Attendance at all labs is mandatory. Labs 4-8 will have a grade assigned based on participation and completion of a self-assessment exercise which will be due 1 week following completion of the associated lab.

Midterm and final examination will be in the form of: true or false, multiple choice, and short-written answers and will be somewhat proportional to the amount of lecture/lab time devoted to each topic. Examination questions will include reference to material covered in class, in website materials (including pictures and videoclips), during the laboratory session and in course notes.

Difficulties in understanding course material should be directed to the instructors who presented the material in question or to the course coordinator as soon as problems are recognized.

Summary of Marks for VETM*3510

- Online Quizzes (3x1%) = 3%
- Mastery Lists (2x2%) = 4%
- Dentistry Online Modules = 3%
- Lab participation & self assessment = 20%
- Midterm = 20%
- Final Exam = 50%
100%

**Midterm review:**

Following the mid-term examination, there will be a three-week period in which the examination can be reviewed. There will not be an opportunity to review the examination outside of this period. To arrange a time to review the examination, please contact the Administrative Assistant to the Faculty and Chair in the Department of Clinical Studies, Linda Wing (lwing@uoguelph.ca).

**Midterm resit session:**

The course coordinator will determine the format of a make-up examination for those students who miss the midterm, and have been granted academic accommodation through the Associate Dean, Students. The resit session will occur on **Tuesday November 27, 2018 at 6pm.**

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### 7 Course Statements

#### 7.1 Administrative

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

#### 7.2 Course

To prepare undergraduate veterinary students for Phase 3 surgical lectures and surgical training laboratories and Phase 4 clinical rotations by introducing basic and more advanced surgical concepts and skills.

Instruction will consist of formal lectures, self-directed website study, self-directed suture exercises, completion of a mastery list and 6 practical laboratory sessions.

### 8 University Statements
8.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

8.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml

Graduate Calendar - Grounds for Academic Consideration
https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml

8.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml

Graduate Calendar - Registration Changes
https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-regchg.shtml

Associate Diploma Calendar - Dropping Courses
https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml

8.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student
Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

More information can be found on the SAS website
https://www.uoguelph.ca/sas

8.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml

Graduate Calendar - Academic Misconduct
https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml

8.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

8.8 Resources

The Academic Calendars are the source of information about the University of Guelph’s procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.
Academic Calendars
https://www.uoguelph.ca/academics/calendars