



RED RIVER COLLEGE
OF APPLIED ARTS, SCIENCE AND TECHNOLOGY

Animal Health Technology
Curriculum Validation – Program Renewal and
Curriculum Framework
Final Report August 2012

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Table of Contents

Animal Health Technology Program Renewal Final Report	1
Introduction.....	1
Program Renewal Deliverables	1
Outcomes from the Deliverables.....	2
Industry Occupational Analysis Chart (Appendix A) using CVMA Essential Task List (Appendix B).....	2
Summary of Interviews and Focus Groups (Appendix C)	3
Graduate Skills and Abilities and Gap Analysis Chart (Appendix D).....	11
Program Renewal Vision and Goals Workshop	12
Course Learning Outcomes, Sequencing and Descriptions (Appendix F)	16
5 Year Program Renewal Plan and Gantt Chart (Appendix G)	16
Appendices:	
Appendix A – Industry Occupational Analysis Chart.....	17
Appendix B – CVMA Essential Task List	33
Appendix C – Summary of Interviews and Focus groups	47
Appendix D – Graduate Skills and Abilities and Gap Analysis Chart.....	71
Appendix E – Animal Health Technology Graduate Profile.....	73
Appendix F – Course Learning Outcomes, Sequencing and Descriptions	89
Appendix G – 5 Year Program Renewal Plan in Gantt format.....	101

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Animal Health Technology Program Renewal Final Report

Introduction

This program provides students with the knowledge and skills they need to perform a variety of veterinary medical procedures, such as:

- Anaesthesia induction and monitoring
- Drug dosage calculations
- Surgical and animal nursing
- Laboratory testing
- Diagnostic imaging
- Dentistry
- Emergency care
- Routine veterinary clinic and office procedures

Animal Health Technologists play a vital role in the veterinary industry. They work under the supervision of veterinary practitioners to support the veterinarian in all aspects of practice.

As part of this program, students will participate in on- or off-campus labs where they will be handling animals species such as horses, cattle, swine, chickens, ferrets, rats, mice, as well as dogs and cats.

In June 2011, Louise Gordon, the Dean, School of Health Sciences and Community Services requested a mini-occupational occupational analysis to address some concerns about the Animal Health program. After further discussions between the Program and Curriculum Development Manager and Consultant and the Dean and Chair of the Animal Health Program, a decision was made that a program Renewal was needed in order to address the issues. A project scope was outlined and additional deliverables were added based on revisions to the original project scope. The resulting process addressed seven major areas for renewal: curriculum, facilities, pre-testing and upgrading, budget, committees, professional development and additional revenue sources. The outcome is a 5-year program renewal plan with timelines for achieving the goals.

Program Renewal Deliverables

The Animal Health Technology Program Renewal process involved 9 interrelated deliverables:

1. Occupational Analysis using the Canadian Veterinary Medical Association (CVMA) Essential Task List
2. Individual Interviews with instructors and educational assistants and focus groups with graduates, current students and early leavers of the AHT program
3. Graduate Skills and Abilities and Gap Analysis chart
4. Graduate Profile
5. Learning Outcomes related to Graduate Profile statements
6. Program Renewal Vision and Goals

7. Program Renewal Plan
8. Courses with Course Descriptions and Related Learning Outcomes
9. Final Report

Outcomes from the Deliverables

Industry Occupational Analysis Chart (Appendix A) using CVMA Essential Task List (Appendix B)

The Industry Occupational Analysis is one component of the curriculum development process at Red River College and provides the program with a description of regional occupational needs. Included in the process is the identification of emerging and retiring industry trends.

The Industry Occupational Analysis for the Animal Health Technology program was held on September 16, 2011, facilitated by Sandra Sukhan and Gene Semchych. The occupational analysis was based on the Essential Task List that was developed by the Canadian Veterinary Medical Association (CVMA). Twelve (12) expert practitioners in the Animal Health Technology profession were asked to identify emerging and retiring trends in the field, as well as verify the major competencies and related skills based on the CVMA Essential Task list that are required by entry-level workers in the field. Practitioners represented urban and rural veterinarians and Animal Health technologists.

The resulting Animal Health Technology Occupational Analysis based on the CVMA Essential Task List identified the following emerging and retiring trends:

Emerging Industry Trends:

- Dental hygiene
- Hospital asepsis
- AHT proactive in client education
- AHT capable & competent at communication
- AHT capable & competent at communication
- Advance in business (technology) aspects of practice
- Expansion of technology (i.e. imaging)
- Need for knowledge in anaesthesia
- Biosecurity & bio-containment tracking & documentation
- Knowledge of foreign animal diseases
- Homeopathy for small animal
- Knowledge of nutrition
- Less paper-based filing (more digital)
- AHTs interpreting machine-generated data
- Competence with computers & other technology
- Many tests being done externally
- More in-house diagnostics
- AHTs more involved as a professional as part of the vet team
- AHT involvement in management
- AHTs going for higher paying jobs (career mobility)

- Increasing specialization of AHTs

Retiring Industry Trends:

- Mundane tasks
- Mundane testing
- Rodent infectious diseases
- Researcher management in colonies & facilities
- Less lab analysis
- Extractions
- Less housecleaning & reception duties
- Less clinic testing
- Old technology (radiology technology)

Summary of Faculty Interviews and Student Focus Groups (Appendix C)

Focus groups with graduates, current students and early leavers as well as individual interviews with instructors and educational assistants were conducted from November 2011 to January 2012 to gather information on five (5) key areas to inform the program renewal process:

1. Marketing/Information/Application Process/Admissions
 - Instructors, EAs: How effective are the marketing, information and application process in enabling students to determine if the program (and career) is a good fit for them? 80 hours volunteer / work experience
 - Graduates, Current Students, Early Leavers: What information did you receive, through the admission process (in advance of classes beginning), to enable you to determine if the program (and career) was a good fit for you?
 - Current Students, Early Leavers: Is there additional information that would have been useful?
 - Current Students, Early Leavers: Did you take advantage of the upgrading sessions offered? Why or why not? Were the sessions effective?
2. Program Effectiveness
 - Instructors, EAs: What parts of the program do you find are most helpful in preparing students to work as an AHT? Why?
 - Graduates, Current Students, Early Leavers: What parts of the program, that you completed, do you believe were the most helpful in preparing you to work as an AHT? Why?
 - Instructors, EAs: What parts of the program do you find are least helpful in preparing students to work as an AHT? Why?
 - Graduates, Current Students, Early Leavers: What parts of the program, that you completed, do you believe were the least helpful in preparing you to work as an AHT? Why?
3. Practical Experience
 - a. Instructors, EAs: Does the amount and variety of experiences with live animals (labs, practicum, etc.) sufficiently prepare students for the realities of the work place? Provide specific examples.

- b. Instructors, EAs: Does the practicum sufficiently prepare students for the realities of the work place? Length? Timing in program? Match with students' level of development?
 - c. Graduates, Current Students, Early Leavers: Do you believe the amount and variety of experiences you had, in the program, with live animals (labs, practicum, etc.) were preparing you for the realities of the work place? Explain.
4. Student Engagement
 - a. Instructors, EAs: What parts of the program do you find are most effective in engaging students in learning?
 - b. Graduates, Current Students, Early Leavers: What parts of the program did you find most effective in helping you learn?
 - c. Instructors, EAs: What parts of the program do you find are least effective in engaging students in learning?
 - d. Graduates, Current Students, Early Leavers: What parts of the program did you find least effective in helping you learn?
5. Early Leaving
 - a. Instructors, EAs: What reasons, for leaving the program prior to completion, have students shared with you? Are there graduates or current students who considered leaving the program prior to completion but decided to stay? Why?
 - b. Early Leavers: Why did you leave the program prior to completion? Is there anything that could have enabled you to continue in the program? Explain.
 - c. Graduates: Did you ever consider leaving the program prior to completion? Why? Why did you decide to stay?
 - d. Current Students: Did you ever consider leaving the program prior to completion? Why? Why did you decide to stay?

Three (3) ninety-minute focus groups were conducted by Sandra Sukhan and Robert Cordingley with graduates, current students and early leavers in November and December 2011. Phone calls were made to some graduates; three (3) participated. Current students were invited to participate; three (3) participated. Phone calls were made to some early leavers; three (3) participated. In addition, eight (8) individual sixty-minute interviews were conducted by Robert Cordingley with instructors and educational assistants.

Prior to the start of each interview or focus group, participants were provided information about the purpose of the interview, how the information would be collected, stored and disseminated and the confidentiality of responses.

Outlined below are the points for consideration for the program visioning that informed the workshop based on the focus groups and individual interviews:

Marketing/Information/Application Process/Admission

Website

Improve information on website re:

- Strong background in math and science
- Course load requirement

- Techs having to interact with people as well as animals
- Video with real scenarios of the realities of AHT work e.g. fecal Fridays; beef barn, drawing blood, restraining large and small animals, euthanasia

Volunteer Experience

- Restructure the requirements for 80 hour volunteer work (similar to practicum checklist) so that potential students get a more realistic idea of program and are meaningfully engaged

Assessment

- Make upgrade courses relevant and related as well as accessible
- Give adequate notice about upgrade course availability as well as program start date
- Consider a Pre-AHT term/year for foundation/science courses which could be used to determine entrance into program

Information Session

Information sessions could include:

- Presentation from current students
- Building tour
- Exam schedule
- Strong background in Math and Science
- The amount of work
- The not-so-pleasant aspects of the program (not about playing with cute puppies)
- Wages and work hours
- Job opportunities
- Communication with a range of people
- Required vaccines
- Euthanasia

Interviews

- Implement a one-on-one interview process
- Some students may decide not to enrol
- May shorten the wait time for some students

Advising

- Students should be assigned to an advisor as part of application process
- This would help faculty identify students who are struggling

Programming: Courses, Content, Instruction, Academic Supports

Practical/Lab Time

- More practice hours (labs) before testing
- Large animals in 1st year
- Small animals in 2nd year
- Tattoo on cadavers
- Practice on other small animals like goats and sheep
- Combine theory and practical so material is relevant
- Dentistry, anaesthesia, venipuncture, handling cats, inter-muscular injections
- More practice giving injections and placing IVs
- More animal restraint practice ahead of practicum
- More experience with dentistry and large dogs
- More large animal surgical nursing and anaesthesia
- Perceived competition with clinics if practice time increased
- Students only have experience with healthy animals (minimizes risk but students do not work with sick animals)

Semesters

- Add another semester so content is not crammed into two semesters

Courses

Review amount of content and how some courses are taught i.e.

- Genetics
 - Entire course could be eliminated
 - Some content could be moved to Reproduction
 - Overlaps Bio 40S (pre-requisite)
 - Online course had no structure

- Microbiology
 - Most of content can be eliminated (most clinics send out)
 - Too much time spent copying notes
- Math (1st term) not useful
- Communications
 - Reduce to one course
 - Focus on resumes, interviews, public speaking, newsletters (a little bit) or move key features to clinical practice course
- Pharmacology
 - Too much information about many drugs
 - Focus on standard drugs used in clinics
- Chemistry/Organic Chemistry
 - Could be eliminated
 - Molarity is not necessary and is already covered on Chemistry 40S
 - Drawing blood samples can be moved to another course
 - Dilutions can be moved to Math
 - Stoichiometry not needed
 - Some content from organic chemistry could be integrated with Biochemistry
 - Lab safety could be done prior to entry into program
 - WHMIS is renewed online yearly anyway
- Radiology
 - Course should be longer
 - More time on safety
 - More hands-on re: imaging
 - Less details of the Physics
- A & P
 - Reduce taxonomies (covered in Bio 40S)
- Practicum Prep can be eliminated if there was more practical throughout the year
- Autoclaving repeated in surgical nursing

- Clinical Practice
 - Add timelines for storing records
 - Add criteria used for clinical inspections
 - Add the information from communications course
 - Add people skills
 - Add how to talk/report to Dr. as well as relay information
 - Add talking to clients about euthanasia, grieving (using role playing)
 - Add lab work and urinalysis to 1st clinical
 - Remove/reduce fecal floats
 - Everything covered in 1st year should be on practicum checklist
 - Every 2nd Tuesday in the 3rd term is not a good experience (don't know much more than 1st year; sets precedent for the rest of the time in clinic, especially if student not assertive; this can be moved to the week before or after exams)
 - Every 2nd Tuesday in 4th term can work because student knows more
 - Prefer to do surgery practicum in school with teachers rather than at practicum with overworked techs
- Emergency Nursing
 - Add labs to emergency nursing; not prepared for emergencies
- Biochemistry
 - 100% needed if going into research
- Exotics – good exposure
- Lab animals – once to each of the 3 labs is sufficient
- Nutrition – valuable course but Hills online course not necessary (content taught in class)
- Anaesthesia
 - Need more practice with anesthesiology (less likely to panic in an emergency)
- Parasitology
 - No need to use Latin names
 - Parasite life cycle important

- Waste of time memorizing (chart usually in cupboard)
 - Too much time on fecal floats (not done often)
 - Need more protozoads as this is what we are concerned about in clinic
- Practicum
 - Consider how skills practiced on large animals are tested (currently one practice session and then tested)
 - Everything covered in 1st year should be on task list
 - Every 2nd Tuesday in Year 2 first semester not useful (not enough new experience; currently mostly practicing skills from 1st year); could be put at the end of semester after exams
 - 2nd Tuesday in Yr. 2, second semester is better; prefer to do surgery practicum in school with teachers who can supervise
 - Be selective about which clinics students go to (some may be too slow or use students as cleaners)
 - Students should not do practicum at same place of employment
 - Clinic fatigue should be noted (i.e. overuse of clinics)
- Add more microscope work (used often by techs)
 - Add urine analysis
 - Add fecal smears
 - Add wet mounts
 - Add skin scraping
 - Delete some blood smears
- Blend theory and practical in 1st and 2nd term (similar to Med Nursing)
- Less courses per term; therefore less exams
- Less tests and exams and more assignments/projects for grades
- Provide notes on PowerPoint or program website
- A glossary of terms would be useful
- Use one-on-one tutors with some familiarity with program
- Less back-to-back exams and less long (3-4 hours) exams

- Provide course offerings in the summer
 - For those who need to repeat
 - For those who would like to work ahead
- Consider part-time option for those who have to balance school and work

Instruction

- Instructors have to provide timely feedback, be enthusiastic and care about students
- Improve classroom culture (i.e. cliques)
- Provide remedial support while students are in program

Equipment / Space / Staffing

- Improve classroom space, heating and equipment
- If attrition lowered, space will become an issue
- More large animal experience will mean increased costs
- Facility needs to be set up more like a clinic
- Need 2 large dog kennels to increase exposure and comfort
- Need space for cats to play (currently moving stuff from storage room to radiology room to make space)
- Resolve ventilation issues in x-ray room
- Resolve issue that new computer-generated radiographs are made on Radiography equipment; instructional time & quick x-rays are restricted
- Work on live animals require almost one-on-one supervision of students
- Integrate work ethic into labs in a more conscious way

Other Considerations

- Stress is overwhelming
- Volume of work is huge issue
- Low pay for the amount of time in program
- No work/life balance
- Financial constraints of work and study for two years
- Family issues arise

- Allergies
- EAL students who do not have the appropriate level of English
- Students with lack of ability or lacking strong academic background
- Students who are academically strong but are not intuitive with animals
- Redesign program (currently appears to be add-on and patchwork of courses)

Graduate Skills and Abilities and Gap Analysis Chart (Appendix D)

The Graduate Skills and Abilities and Gap Analysis workshop was conducted on December 20 and 21, 2011. The faculty had an opportunity to review expectations from industry as identified in the occupational analysis chart. Having attended the one-day occupational analysis workshop as observers, faculty had a good sense of industry expectations. After a detailed review of all the competencies and related skills, the faculty made some changes and additions to the Graduate Skills and Abilities chart based on the length of the program and the level of skills required for entry-level technicians. Based on the Graduate Skills and Abilities Chart where faculty identified the skills that they felt could reasonably be taught in the two-year program, they compared those expectations to the course content that is currently being delivered in the program to identify the gaps in training.

The outcome of this workshop was a single, composite chart that outlines the graduate skills and abilities and the gaps in training in the current program. The chart is the cross-referencing of: 1) the competencies identified in the Industry Occupational Analysis Chart and the College Wide Learning Outcomes (CWLOs), 2) the faculty's assessment of what would constitute realistic learning outcomes of graduates of the program, and 3) the gaps in curriculum content for graduates in the current program.

Animal Health Technology Graduate Profile (Appendix E)

Through the use of the Graduate Skills and Abilities Chart, the Graduate Profile was developed on January 16, 2012 by the faculty, facilitated by the Curriculum Consultant. The Graduate Profile is a series of program learning outcome statements for graduates of the Animal Health Technology program. The program-level statements are as follows:

The graduate:

- Uses a variety of technologies and vet specific software to communicate, record and file information and create documents
- Demonstrates effective verbal, non-verbal, written, and interpersonal communication skills appropriate to the veterinary workplace
- Safely and effectively administers prescribed drugs to patients
- Accurately dispenses and explains prescribed drugs to clients

- Complies with workplace safety, privacy, and health regulations by adhering to government legislation and to the policies of professional organizations
- Performs patient assessment to obtain patient data that will allow accurate patient evaluation with minimum stress and maximum safety
- Safely and effectively manages patients in all phases of anesthetic procedures
- Integrates all aspects of patient management for common surgical procedures in common domestic species
- Provides nursing care for hospitalized patients (common domestic species) including administering therapeutic care through appropriate nutrition and husbandry
- Performs laboratory animal procedures as outlined by the Canadian Council on Animal Care
- Takes x-rays and provides support for other diagnostic imaging procedures using appropriate techniques and following recommended safety measures
- Performs laboratory procedures by obtaining and preparing patient samples and conducting appropriate analysis with a high level of quality control
- Demonstrates personal integrity, reliability, ethics, accountability, and resourcefulness in all roles and responsibilities
- Demonstrates professionalism by valuing diversity, respecting workplace culture, and committing to lifelong learning
- Provides dental care for dogs and cats

Program Renewal Vision and Goals Workshop

Prior to the Vision and Goals workshop, a preplanning workshop was conducted on March 5, 2012 with the Chair and faculty to review all pertinent documents including emerging and retiring trends, the combined Occupational Analysis/Graduate Skills and Abilities/Gap Analysis chart, the summary of focus groups and individual instructor interviews, Advisory Committee minutes from the preceding three years, and feedback from the CVMA which provides the program's accreditation.

On March 23, 2012, a project update was provided to the Curriculum Review Committee and the feedback was very positive on the progress that the program had made to date in the Program Renewal process.

Utilizing the results of the pre-planning workshop, the Vision and Goals workshop was held on March 13 and April 16, 2012. The Curriculum Consultant in collaboration with the Chair and faculty, created a vision statement along with seven (7) goals and related strategies that will guide the program renewal activities over the next five years. On April 26, 2012, the Chair in

collaboration with the Curriculum Consultant, established timelines for achieving each of the goals.

The Vision, Goals and Related Strategies are as follows:



Vision

In the next 5 years, the Animal Health Technology program will meet or exceed industry expectations by delivering high quality, current, relevant and timely education

1 Curriculum: Review and Revise Curriculum

- 1.1. Explore a modular approach to curriculum design
- 1.2. Explore a systems approach to course content e.g. cardiology, respiration
- 1.3. Add more RPL processes for courses
- 1.4. Remove outdated items (content & testing)
- 1.5. Use a variety of teaching/testing strategies
- 1.6. Provide community and internal mentors for students
- 1.7. Increase animal behaviour content in courses (would require additional resources, e.g. videos, books)
- 1.8. Increase hands-on time with basic practical skills
- 1.9. Increase live dental labs

- 1.10. Increase anaesthesia labs
- 1.11. Explore the use of technology e.g. clickers
- 1.12. Review student clinic choice for practicum to ensure that students are not placed where they are already working
- 1.13. Remove Tuesday practicums
- 1.14. Consider extended year-end practicums

2 Facilities: Advocate for Additional Space

- 2.1 Advocate for dedicated AHT science lab (chemistry, A & P)
- 2.2 Advocate for additional lab for 1st year model practice
- 2.3 Advocate for increased practical lab space to house animals for anaesthesia, dentistry, and animal husbandry
- 2.4 Advocate for space for larger kennel rooms with direct outside access
- 2.5 Advocate for fenced in dog run area on campus
- 2.6 Investigate use of 3rd floor x-ray room
- 2.7 Advocate for offices with windows and proper ventilation
- 2.8 Advocate for larger study area for students (currently 3 computers)
- 2.9 Investigate relocating blood bank to external facility

3 Pre-testing and Upgrading: Screen incoming students so all 1st year students come in with minimum skills (e.g. academic and physical ability)

- 3.1 Improve website by adding a more comprehensive self-test portion
- 3.2 Provide student advising prior to entry into program
- 3.3 Explore a pre-entry course that covers basic math and sciences
- 3.4 Suggest assessment to be completed soon after application is submitted
- 3.5 Use data from HOEA entry tests to provide more relevant student advising
- 3.6 Prepare informational video (including some unpleasant tasks)

4 Budget: Advocate for additional revenue

- 4.1 Advocate for digital x-ray equipment
- 4.2 Advocate for more student computers and printers
- 4.3 Update dental equipment
- 4.4 Update in-house blood testing equipment so it is more relevant
- 4.5 Advocate for increased faculty
- 4.6 Advocate for additional EA staff

5 Committees: Review Mandate of Various Committees

- 5.1 Review terms and mandate of Advisory Committee (including ratio of vets and AHTs)
- 5.2 Advocate for Curriculum Review Committee to have equal representation from vets and AHTs
- 5.3 Review mandate of Animal Care Committee

6 Professional Development: Continue to offer professional development opportunities for staff

- 6.1 Continue opportunities for attending conferences/seminars (i.e. AVTE, Western Educators)
- 6.2 Seek PD money for specialty areas of training
- 6.3 Investigate return-to-industry opportunities for staff (for May/June)
- 6.4 Continue opportunities for PD related to teaching and learning e.g. CAE

7 Additional revenue sources: Explore sources of Cost-Recovery Revenue Generation

- 7.1 Explore fees for surgeries and vaccines (free for D'arcy's ARC & WAS)
- 7.2 Consider clinic fees for surgeries and vaccines
- 7.3 Explore heartworm testing clinic to service low-income communities
- 7.4 Explore mobile vaccine clinic to service low-income communities
- 7.5 Sell naming rights to rooms (e.g. vets, clinics, suppliers)

Course Learning Outcomes, Sequencing and Descriptions (Appendix F)

A series of workshops were held on January 23, 30, May 17, June 7, and 18 to write course learning outcomes based on the Graduate Skills and Abilities chart. The learning outcomes were then sequenced into appropriate courses based on a systems approach. As examples, content was organized based on the muscular or skeletal systems. Courses were sequenced in each term based on the foundational knowledge that would serve as pre-requisites for advancing in the program. Course descriptions were written based on the course learning outcomes. The faculty was very cognizant when planning and organizing each course about ensuring that there would be a good mixture of theory and practical skills in every course.

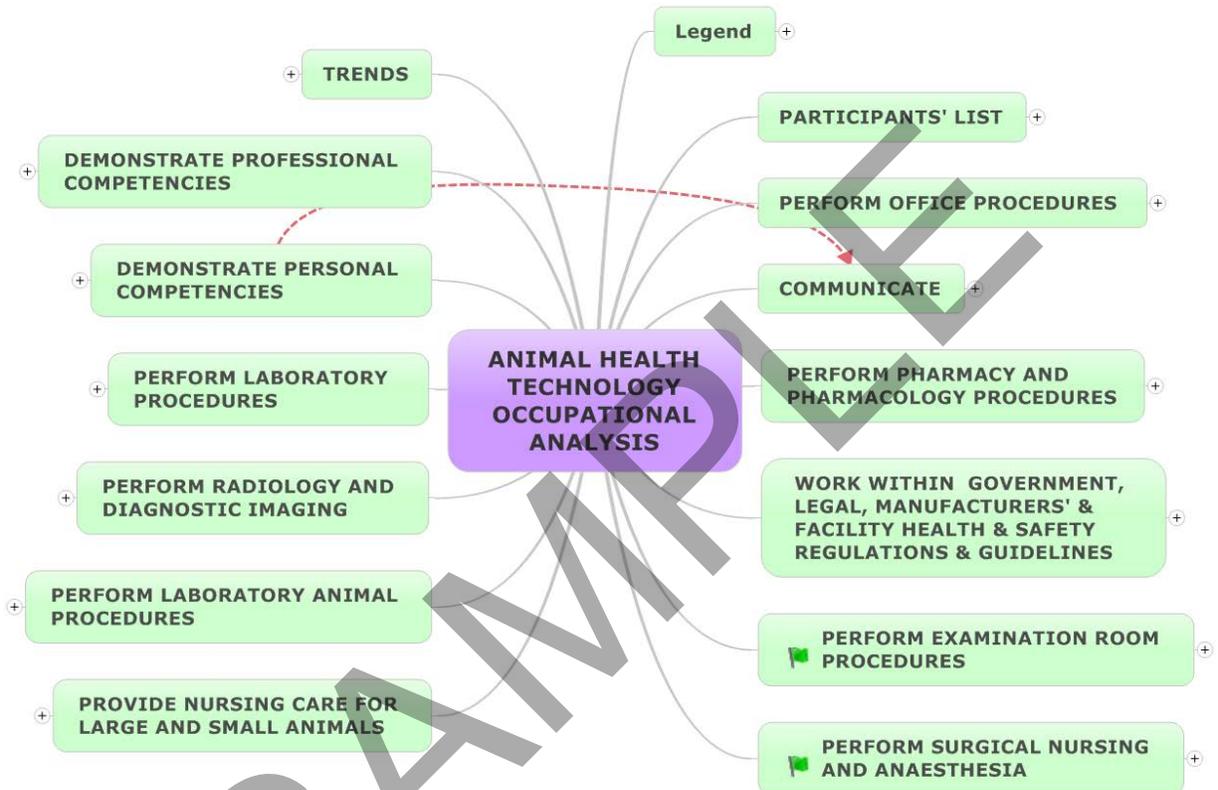
5 Year Program Renewal Plan and Gantt Chart (Appendix G)

The Program Renewal Plan and final report was prepared in August 2012. The program renewal plan is the result of translating the preceding deliverables into a coherent plan for the renewal of the program. The Program Renewal Plan will serve as the basis for the improvement of the Animal Health Technology program. The Chair and faculty are committed to renewing the program over the next 5-year period.

SAMPLE

Appendix A – Industry Occupational Analysis Chart

ANIMAL HEALTH TECHNOLOGY OCCUPATIONAL ANALYSIS



1-4 Skill Rating Scale

- 1** Can perform some parts of this skill satisfactorily but requires assistance and/or supervision to perform the entire skill
- 2** Can perform this skill satisfactorily but requires periodic assistance and/or supervision
- 3** Can perform this skill competently without assistance and/or supervision
- 4** Can perform this skill competently with more than acceptable speed and/or quality and can teach the skill to others

Flags

-  Emphasize in AHT program

1 PERFORM OFFICE PROCEDURES

- 1.1 **2** Make appointments
- 1.2 **2** Admit/discharge patients
 - 1.2.1 Record presenting complaint
 - 1.2.2 Explain treatment
 - 1.2.3 Explain follow-up
 - 1.2.4 Explain costs related to services
- 1.3 **2** Create and maintain client/patient records
- 1.4 **1** Prepare appropriate forms and certificates
- 1.5 **2** Perform veterinary medical record keeping procedures
- 1.6 **1** Utilize common practice management software programs
 - 1.6.1 Maintain invoicing
 - 1.6.2 Idex/cornerstone
 - 1.6.3 Impromed
 - 1.6.4 Avimark
- 1.7 **1** Use veterinary on-line services
 - 1.7.1 Explain on-line services to producers, animal health owners, and other staff

1.7.2 Direct clients to online resources

1.8  Perform basic filing (e.g. medical records, radiographs, lab reports)

1.8.1 Hard copy records

1.8.2 Digital records

1.9  Maintain logs (e.g. x-ray, surgery, anaesthesia, radiology, laboratory, controlled substances)

1.9.1 Complete radiographic logs, reports, files and records

1.10  Maintain equipment

1.10.1 Office equipment

1.10.2 Medical/surgical equipment

1.11  Manage inventory

2 COMMUNICATE

2.1  Develop client education information

2.2   Provide client education information (e.g. oral, written)

2.2.1 Explain inadvisability of keeping wildlife as pets

2.3   Communicate at the level of the audience

2.4   Write a variety of documents (e.g. business letters, reports, client education handouts)

2.5   Demonstrate telephone etiquette

2.6  Develop hospital nutrition protocols

2.7  Communicate hospital nutrition protocols

3 PERFORM PHARMACY AND PHARMACOLOGY PROCEDURES

3.1  Explain general types and groups of drugs, their uses and clinically relevant side effects

3.2   Dispense medications from written and verbal orders

3.3   Use weights and measures (basic Math)

- 3.4   Calculate dosages
- 3.5  Perform inventory control procedures
- 3.6  Prepare medications
- 3.7  Reconstitute vaccines
- 3.8  Differentiate between abnormal and normal responses to medication
- 3.9   Administer drugs and vaccines using appropriate routes and methods

4 WORK WITHIN GOVERNMENT, LEGAL, MANUFACTURERS' & FACILITY HEALTH & SAFETY REGULATIONS & GUIDELINES

- 4.1   Discuss the legality of the veterinary-client-patient relationship
- 4.2  Follow patient and personal/personnel safety protocols
- 4.3   Work within regulations governing over-the-counter and prescription drugs and controlled substances
- 4.4  Observe legal boundaries of veterinary health care team members
- 4.5  Comply with provincial, federal, and local animal welfare regulations
- 4.6  Store, handle and dispose of biologics and therapeutic agents, pesticides and hazardous wastes
- 4.7  Manage controlled substances
- 4.8   Perform sanitation procedures for animal holding and housing areas

5 PERFORM EXAMINATION ROOM PROCEDURES

- 5.1   Identify common domestic animal species and breeds
- 5.2   Interpret normal values of temperature, pulse and respiration for various animals (e.g. dogs, cats, horses, cows)
- 5.3   Assess patient
 - 5.3.1 Obtain accurate patient data (temperature, pulse and respiration)
 - 5.3.2 Take detailed patient history

5.3.3 Recognize signs of pain and discomfort

5.3.4 Triage patients

5.3.5 Perform basic physical exam

5.3.6 Interpret animal behaviour

5.4   Restrain small animals for procedures

5.4.1 Place in and remove small animals from cages

5.4.2 Apply safety devices

5.4.3 Apply Elizabethan collar

5.4.4 Apply restrain pole

5.5   Restrain large animals for procedures (e.g. cattle, swine, sheep, horse)

5.5.1 Halter, tie and lead horses

5.5.2 Apply twitch to horses

5.5.3 Apply bovine halter

5.5.4 Apply bovine tail restraint

5.5.5 Apply nose tongs/leads

5.5.6 Apply calf and foal restraint

5.5.7 Demonstrate large animal behaviour practices (Large Animal Handling)

5.5.8 Operate cattle chute

6 PERFORM SURGICAL NURSING AND ANAESTHESIA

6.1  Perform surgical preparations

6.1.1 Prepare surgical equipment/supplies

6.1.2 Sterilize instruments & supplies using appropriate methods

6.1.3 Prepare gowns, masks, gloves and drapes

6.1.4 Prepare surgical sites using aseptic techniques

6.1.5 Operate/maintain autoclaves

6.1.6 Provide operating room sanitation and care

- 6.1.7 Position patients
- 6.2 **2** Perform as a surgical assistant or circulating nurse
 - 6.2.1 Pass appropriate instruments and supplies (e.g. sutures)
 - 6.2.2 Maintain operating room conduct and asepsis
 - 6.2.3 Keep operative records
 - 6.2.4 Operate/maintain suction and cautery machines
 - 6.2.5 Operate/maintain fibre optic equipment
 - 6.2.6 Operate/maintain laser surgical equipment
- 6.3 **2** Perform post-surgical procedures
 - 6.3.1 Perform post-surgical clean-up (e.g. equipment, surgical room/area, instruments, patient, personnel)
 - 6.3.2 Provide post-operative care (e.g. pain management, wound management, discharge instructions, suture removal)
- 6.4 **2** Assist with anaesthesia under supervision
 - 6.4.1 Calculate dosages of anesthetic-related drugs
 - 6.4.2 Administer anaesthetic-related drugs (e.g. injection, mask, induction chamber, endotracheal tube)
 - 6.4.3 Perform endotracheal intubation (including identifying normal and abnormal anatomy, reporting abnormal physical anatomy)
 - 6.4.4 Maintain general anaesthesia
 - 6.4.5 Use clinical signs and monitoring equipment to monitor patient status in all stages of anaesthetic procedure
 - 6.4.6 Operate/maintain anaesthetic delivery and monitoring equipment (e.g. pulse oximeter, esophageal stethoscope, electrocardiograph (i.e. recognize abnormal rhythms/audible sounds, properly apply leads), anesthetic machines, including re-breathing systems, non-re-breathing systems, induction chambers and masks, endotracheal tube, ambu bag, scavenging systems, oxygen sources, respirator monitors, blood pressure monitoring devices, laryngoscopes, ventilator, defibrillator)
 - 6.4.7 Evaluate patient and implement and evaluate pain management protocols
 - 6.4.8 Respond to anaesthetic emergencies

- 6.4.9 Perform resuscitation procedures
- 6.4.10 Calculate and administer anesthetic antagonists
- 6.4.11 Calculate and administer other emergency drugs
- 6.4.12 Perform CPR
- 6.4.13 Administer local anaesthesia

7 PROVIDE NURSING CARE FOR LARGE AND SMALL ANIMALS

- 7.1   Provide care for hospitalized patients
- 7.2  Perform permanent identification methods (i.e. microchips & tattoos)
- 7.3  Describe appropriate diets based on key nutritional factors in disease conditions
 - 7.3.1 Describe the benefits of therapeutic foods
- 7.4  Maintain equipment used in animal care and nursing
- 7.5   Perform venipuncture for treatment or blood sampling
 - 7.5.1 Cephalic (dog, cat)
 - 7.5.2 Jugular (dog cat, horse, ruminant, swine, and other animals)
 - 7.5.3 Pocket pets and exotics
 - 7.5.4 Saphenous (dog)
 - 7.5.5 Coccygeal (cow)
 - 7.5.6 Femoral (cat)
 - 7.5.7 Ear vein in cats for diabetic monitoring
- 7.6   Administer parenteral medications
 - 7.6.1 Intravenous
 - 7.6.2 Subcutaneous
 - 7.6.3 Intramuscular
 - 7.6.4 Intradermal
 - 7.6.5 Intraperitoneal

7.6.6 Intramammary

7.7   Administer fluid therapy

7.7.1 Administer subcutaneous fluids

7.7.2 Place intravenous catheters

Cephalic vein (small animals)

Saphenous vein (dog)

Jugular vein (large animal)

7.7.3 Maintain IV fluid therapy

Maintain catheters

Determine & maintain fluid infusion rate

Monitor patient hydration status

7.7.4 Administer enteral medications

Balling gun (ruminant)

Dose syringe (ruminant, horse)

Gastric intubation (small animal)

Hand pilling (dog, cat)

Oral speculum & stomach tube (ruminant)

Naso-gastric intubation (small animal)

7.7.5 Perform small animal dentistry

Perform/chart routine dental prophylaxis (manual and machine)

Perform routine dental radiograph imaging techniques

7.8   Provide Husbandry

7.8.1 Perform therapeutic bathing, basic grooming and dipping of all small animals

Trim nails (dog cat exotics and birds)

Clean sheath (horse)

7.9  Administer therapeutic care

- 7.9.1 Express anal sacs internally
- 7.9.2 Clean and medicate ears (dog, cat)
- 7.9.3 Administer intra mammary treatment (mastitis therapy only)
- 7.9.4 Administer enemas
- 7.9.5 Perform ocular diagnostic tests
 - Apply topical medication to eye*
 - Perform fluorescein staining and Schirmer tear test*
 - Perform ocular tonometry*
- 7.9.6 Apply equine leg & tail wraps
- 7.9.7 Apply and remove bandages, splints and sutures
- 7.9.8 Remove casts
- 7.9.9 Administer physical therapy (hydrotherapy, Post-operative, orthopaedic, neurological)
- 7.9.10 Explain care of recumbent patient
- 7.9.11 Maintain chest, tracheotomy and pharyngostomy tubes
- 7.9.12 Apply established emergency protocols and maintain emergency medical supplies
- 7.9.13 Collect, cross-match and give blood transfusion
- 7.9.14 Explain principles of orphan animal care
- 7.9.15 Provide nursing care for newborns
- 7.9.16 Practice wound management and abscess care
- 7.10   Collect samples
 - 7.10.1 Collect urine sample
 - Catheterize male dogs and cats*
 - Collect voided urine sample*
 - Perform cystocentesis (small animal)*
 - Express bladders manually*
 - Subtopic*

- 7.10.2 Collect semen
- 7.10.3 Collect milk samples
- 7.10.4 Collect & examine fecal samples
- 7.10.5 Collect and examine skin scrapings
- 7.10.6 Prepare mare for vaginal examination & cervical culture

8 PERFORM LABORATORY ANIMAL PROCEDURES

- 8.1 **1** Explain basic principles of animal research protocols
- 8.2 **2** Provide care for rodents and rabbits, ferrets & avian
 - 8.2.1 Identify common species/breeds of rodents, ferrets, rabbits and avians
 - 8.2.2 Restrain common species/breeds of rodents, ferrets, rabbits and avians
 - 8.2.3 Perform basic care procedures, e.g. feeding, watering, breeding, identification, handling
 - 8.2.4 Administer drugs or medications, using appropriate sites and routes
 - 8.2.5 Collect blood samples
 - 8.2.6 Perform oral dosing
 - 8.2.7 Explain common disease signs
 - 8.2.8 Clip teeth of rabbits & guinea pigs
 - 8.2.9 Clean & medicate ear (rabbit)
 - 8.2.10 Determine sex of common species/breeds of rodents, ferrets, rabbits, avian (where possible)
- 8.3 **1** Provide Care for Exotic & Fish Species
 - 8.3.1 Restrain reptiles, amphibians
 - 8.3.2 Provide basic exotic animal care (i.e. feeding, watering, breeding, identification, caging, aquarium care)
 - 8.3.3 Perform a physical examination
 - 8.3.4 Administer drugs using appropriate sites & routes for each species

8.3.5 Collect appropriate body tissues or fluids from live animals and perform laboratory procedures

8.3.6 Anaesthetize exotic animals

9 PERFORM RADIOLOGY AND DIAGNOSTIC IMAGING

9.1 **3**  Implement & follow recommended radiation safety measures

9.2 **3** Prepare and use radiographic technique charts

9.3 **2**  Take diagnostic radiographs using stationary and portable radiographic equipment for appropriate anatomical studies

9.3.1 Position large and small animal patients (horses, dogs, cats and birds)

Apply anatomical landmarks to positioning techniques for head, chest, abdomen and extremities

9.3.2 Perform radiographic techniques utilized in assessing hip dysplasia

9.3.3 Perform modifications of diagnostic imaging techniques as they apply to pocket pets, avian, exotics

9.4 **3** Process diagnostic radiographs

9.4.1 Process film (hand and digital)

9.4.2 Assess quality of image

9.4.3 Maintain quality control

9.4.4 Label, file & store film

9.5 **1** Maintain radiographic equipment

9.5.1 Clean screens

9.5.2 Report faulty equipment

9.6 **1** Perform various contrast media studies (e.g. GI series, pneumocystogram)

9.7 **1** Maintain ultrasound equipment

9.8 **1** Maintain endoscopic equipment

10 PERFORM LABORATORY PROCEDURES

10.1  Prepare laboratory samples for shipment

10.2  Maintain laboratory equipment

10.3  Perform quality control procedures

10.4  Explain basic principles of laboratory safety

10.5  Prepare and store samples

10.5.1 Urinalysis

10.5.2 Hematologic

10.5.3 Parasitologic

10.5.4 Microbiologic

10.5.5 Cytologic

10.5.6 Necropsy

10.6  Ship samples according to laboratory protocols

10.7   Conduct urinalysis evaluation

10.7.1 Determine physical properties of urine (e.g. color, clarity, specific gravity)

10.7.2 Test chemical properties

10.7.3 Examine sediment

10.8   Conduct hematologic evaluations

10.8.1 Perform CBC

Haemoglobin

Hematocrit

Total protein (refractometer)

White cell count (Unopette and automated cell counter)

Red cell count (PC V or electronic cell counter)

10.8.2 Perform microscopic examination of blood films

Prepare blood film and stain

Perform leukocyte differential normal vs. abnormal

Perform erythrocyte morphologic evaluation normal vs. abnormal

Estimate platelet count

Calculate absolute values

Perform white blood cell correction for nucleated red cells

10.8.3 Perform reticulocyte count

10.8.4 Perform platelet count (Unopette and automated cell counter)

10.8.5 Calculate haematologic indices

10.8.6 Identify blood parasites

Dirofilaria sp/Dipetalonema sp - direct, antigen kit (Knots, filter)

Hemotropic Mycoplasma sp (formerly Haemobartonella sp)

10.8.7 Perform blood chemistry tests (e.g. BUN, glucose, common enzymes)

10.8.8 Collect and prepare serum samples and perform serologic tests (e.g. ELISA, slide/card agglutinations)

10.9   Perform parasitologic procedures

10.9.1 Test for external parasites

10.9.2 Test for internal parasites

Prepare floatation solutions (NE)

Perform fecal floatations

Perform fecal sedimentation

Perform direct smears

Scotch tape retrieval of pinworm ova

Baermann tests

10.9.3 Discuss common parasitic forms, ova and life cycles

Nematodes

Trematodes

Cestodes

Protozoa

10.9.4 Perform coprologic tests

Culture bacteria & perform sensitivity tests.

Identify common animal pathogens using commercially available media and reagents

Perform common biochemical tests

10.10   Perform microbiologic procedures

10.10.1 Perform staining procedures

10.10.2 Culture and identify common dermatophytes, CMT, bacterial culture

10.11   Perform cytologic procedures

10.11.1 Assist in collecting, preparing and evaluating transudate, exudates & cytologic specimens (joint, cerebrospinal, airway, body cavity, vaginal)

10.11.2 Perform & prepare fine needle tissue aspirates and impression smears

10.11.3 Prepare and stain bone marrow specimens

10.11.4 Evaluate semen

10.11.5 Explain timing and types of pregnancy testing

10.11.6 Assist with artificial insemination

10.11.7 Perform fecal & ear cytology

10.12  Perform necropsy procedures

10.12.1 Perform pro-section on non-preserved animal

10.12.2 Handle reportable and zoonotic disease suspects & samples safely e.g. anthrax, rabies

10.12.3 Euthanize animals

10.12.4 Dispose of dead animals using appropriate techniques

11 DEMONSTRATE PERSONAL COMPETENCIES

See also: COMMUNICATE

- 11.1  Demonstrate interpersonal skills
- 11.2  Utilize public relation skills
- 11.3  Maintain personal hygiene
- 11.4  Manage time
- 11.5  Prioritize tasks
- 11.6  Demonstrate empathy and compassion
- 11.7  Demonstrate a commitment to excellence
- 11.8  Demonstrate critical thinking skills
- 11.9  Demonstrate initiative
- 11.10  Demonstrate resourcefulness
- 11.11  Solve problems
- 11.12  Anticipate needs of vets
 - 11.12.1 Predict behaviours
- 11.13  Demonstrate integrity
- 11.14  Adapt to change
- 11.15  Demonstrate work/life balance

12 DEMONSTRATE PROFESSIONAL COMPETENCIES

- 12.1  Apply crisis intervention/grief management skills with clients
- 12.2   Interact professionally with clients and fellow staff members
- 12.3   Demonstrate a commitment to high quality patient care
- 12.4   Respect and protect the confidentiality of client and patient information
- 12.5   Work as part of a veterinary health care team

12.6   Maintain basic cleanliness and orderliness of a veterinary facility (e.g. hospital, clinic, practice, laboratory)

12.7  Respond appropriately to veterinary medical emergencies

12.8   Provide humane handling and care of animals

12.8.1 Ethics

12.9  Maintain professional certification

12.10  Respect diversity

12.10.1 Animal welfare

12.10.2 Industry values

12.10.3 Personal values

12.10.4 Animal activism

12.10.5 Socio/economics

12.11   Demonstrate a commitment to lifelong learning

SAMPLE

Appendix B – CVMA Essential Task List

SAMPLE

SAMPLE

Revised Essential Tasks List – March 2011

- Regular font text denotes didactic (knowledge-based) skills.
- *Italicized* text denotes hands-on (psychomotor) skills. Students are expected to physically perform these skills.
- Recommended (i.e. not essential) tasks are denoted by (NE).
- Skills indicated by the designation (GROUP) may be performed by a group of program students. The appropriate size of the group will be determined by the task being performed taking into account humane treatment of the subject animal. Each member of the group must play an active role in the completion of the task.

Instruction must be provided in all Essential Tasks. Show where, when and by whom this instruction is provided.

TASK	INCLUDED IN COURSE	INSTRUCTOR
OFFICE AND HOSPITAL PROCEDURES AND CLIENT RELATIONS		
Make appointments		
Demonstrate telephone etiquette		
Admit and discharge patients, take history		
Create and maintain client/patient records; prepare appropriate forms and certificates		
Perform basic veterinary medical record keeping procedures: <ul style="list-style-type: none"> • Develop computer skills • Be able to utilize common management software programs • Be familiar with veterinary on-line services 		
Perform basic filing of medical records, radiographs, lab reports, etc.		
Maintain x-ray, surgery, anaesthesia, radiology, laboratory and controlled substance logs		
Recognize and respond appropriately to veterinary medical emergencies		
Maintain basic cleanliness and orderliness of a veterinary facility (including hospital, clinic, practice, or laboratory)		

TASK	INCLUDED IN COURSE	INSTRUCTOR
COMMUNICATION		
Develop effective client communication skills: <ul style="list-style-type: none"> • Apply understanding of interpersonal skills and team dynamics in all aspects of the veterinary health care team • Utilize appropriate interpersonal and public relations skills • Recognize the legality of the veterinary-client-patient relationship • Develop and provide client education in a clear and accurate manner at a level the client understands (i.e., oral and written form, including educational handouts) • Apply crisis intervention/grief management skills with clients • Understand and observe legal boundaries of veterinary health care team members • Interact professionally with clients and fellow staff members • Demonstrate a commitment to high quality patient care • Respect and protect the confidentiality of client and patient information 		
Apply knowledge of provincial, federal, and local animal welfare regulations		
Explain inadvisability of keeping wildlife as pets (NE)		
Write business letters and reports		
PHARMACY AND PHARMACOLOGY		
Recognize general types and groups of drugs, their uses and clinically relevant side effects.		
Demonstrate understanding of regulations governing over-the-counter and prescription drugs and controlled substances.		
Dispense medications from written and verbal orders		
Use weights and measures correctly		
Calculate dosages		
Store, safely handle and dispose of biologics and therapeutic agents, pesticides and hazardous wastes		
Handle controlled substances correctly		

Perform inventory control procedures		
Prepare medications & reconstitute vaccines		
Differentiate between abnormal and normal responses to medication		
Use and explain appropriate routes and methods of drug and vaccine administration		
EXAMINATION ROOM PROCEDURES		
Recognize common domestic animal species and breeds		
Know normal values of temperature, pulse and respiration for dog, cat, horse and cow		
<i>Obtain accurate patient data (temperature, pulse and respiration) for dog, cat, horse and cow</i>		
<i>Auscultate heart and lungs (dog, cat, horse and cow)</i>		
<i>Restrain small animals:</i> <ul style="list-style-type: none"> • <i>Place in, and remove small animals from cages</i> • <i>Apply dog safety muzzle</i> • <i>Apply Elizabethan collar</i> • <i>Apply restraint pole (GROUP)</i> • <i>Restrain small animals for procedures</i> 		
<i>Restrain horses:</i> <ul style="list-style-type: none"> • <i>Halter, tie and lead horses</i> • <i>Apply twitch (GROUP)</i> 		
<i>Restrain cattle:</i> <ul style="list-style-type: none"> • <i>Apply bovine halter</i> • <i>Apply bovine tail restraint</i> • <i>Apply nose tongs/leads (NE)</i> 		
<i>Safely operate cattle chute (GROUP)</i>		
<i>Restrain sheep and swine (NE)</i>		
SURGICAL NURSING AND ANESTHESIA		
Perform Surgical Preparations		
<i>Prepare surgical equipment/supplies</i>		
<i>Sterilize instruments & supplies using appropriate methods</i>		
Identify and know proper use for instruments		
Identify common suture materials, types and size		
<i>Prepare gowns, masks, gloves and drapes</i>		
<i>Prepare surgical sites using aseptic techniques</i>		
<i>Operate & maintain autoclaves</i>		
<i>Provide operating room sanitation & care</i>		
<i>Position patients (common procedures)</i>		

TASK	INCLUDED IN COURSE	INSTRUCTOR
Perform as Surgical Assistant or Circulating Nurse		
<i>Properly pass instruments and supplies</i>		
<i>Maintain proper operating room conduct and asepsis</i>		
<i>Assist with care of exposed tissues and organs</i>		
Keep operative records		
Operate/maintain/suction and cautery machines		
Operate and maintain fibre optic equipment		
Perform Post-Surgical Procedures		
<i>Perform post-surgical clean-up</i> <ul style="list-style-type: none"> • <i>Equipment</i> • <i>Surgical room or area</i> • <i>Instruments</i> • <i>Patient</i> • <i>Personnel</i> • <i>Proper disposal of hazardous medical waste</i> 		
Provide post-operative care: <ul style="list-style-type: none"> • <i>pain management</i> • <i>wound management</i> • <i>discharge instructions</i> • <i>suture removal</i> 		
<i>Maintain and operate anesthetic delivery and monitoring equipment:</i> <ul style="list-style-type: none"> • <i>pulse oximeter</i> • <i>esophageal stethoscope</i> • <i>electrocardiograph (e.g., recognize abnormal rhythms/audible sounds, properly apply leads)</i> • <i>anesthetic machines, including rebreathing systems, non-rebreathing systems, induction chambers and masks</i> • <i>endotracheal tube</i> • <i>ambu bag</i> • <i>scavenging systems</i> • <i>oxygen sources</i> • <i>respiratory monitors</i> • <i>blood pressure monitoring devices</i> • <i>laryngoscopes</i> • <i>ventilator (NE)</i> • <i>defibrillator (NE)</i> 		

TASK	INCLUDED IN COURSE	INSTRUCTOR
Assist with Anaesthesia under Supervision		
Calculate dosages of anesthetic-related drugs		
<i>Administer anesthetic-related drugs by</i> <ul style="list-style-type: none"> • <i>Injection</i> • <i>Mask</i> • <i>Induction chamber</i> • <i>Endotracheal tube</i> 		
<i>Perform endotracheal intubation</i>		
<i>Maintain general anesthesia</i>		
<i>Use clinical signs and monitoring equipment to monitor patient status in all stages of anesthesia</i>		
Evaluate patient and implement and evaluate pain management protocols		
<i>Recognize anaesthetic emergencies and perform resuscitation procedures</i> Calculate and administer anesthetic antagonists Calculate and administer other emergency drugs <i>Perform CPR on appropriate animal models</i>		
LARGE AND SMALL ANIMAL NURSING		
<i>Provide routine record-keeping, care, and observation of hospitalized patients</i>		
Demonstrate understanding of permanent identification methods including microchipping		
<i>Follow patient and personnel safety protocols</i>		
Understand key nutritional factors in disease conditions and be familiar with therapeutic foods Develop and communicate hospital nutrition protocols		
<i>Perform sanitation procedures for animal holding and housing areas</i>		
<i>Maintain equipment used in animal care and nursing</i>		
<i>Perform venipuncture for treatment or blood sampling</i> <ul style="list-style-type: none"> • <i>Cephalic (dog, cat)</i> • <i>Jugular (dog, cat, horse, ruminant)</i> • <i>Saphenous (dog)</i> • <i>Coccygeal (cow) (NE)</i> • <i>Femoral (cat) (NE)</i> 		

TASK	INCLUDED IN COURSE	INSTRUCTOR
<i>Administer parenteral medications</i> <ul style="list-style-type: none"> • <i>Intravenous</i> • <i>Subcutaneous</i> • <i>Intramuscular</i> • <i>Intradermal (NE)</i> • <i>Intraperitoneal (NE)</i> • <i>Intramammary (NE)</i> 		
Administer fluid therapy		
<i>Administer subcutaneous fluids</i>		
<i>Place intravenous catheters</i> <ul style="list-style-type: none"> • <i>Cephalic vein (small animals)</i> • <i>Saphenous vein (dog)</i> • <i>Jugular vein (NE)</i> 		
<i>Maintain IV fluid therapy</i> <ul style="list-style-type: none"> • <i>Maintain catheters</i> • <i>Determine & maintain fluid infusion rate rate</i> • <i>Monitor patient hydration status</i> • <i>Develop familiarity with fluid delivery systems</i> 		
<i>Administer enteral medications</i> <ul style="list-style-type: none"> • <i>Balling gun (ruminant)</i> • <i>Dose syringe (ruminant, horse)</i> • <i>Gastric intubation (small animal) (GROUP)</i> • <i>Hand pilling (dog, cat)</i> • <i>Oral speculum & stomach tube(ruminant) (NE)</i> • <i>Naso-gastric intubation (small animal) (NE)</i> 		
<i>Perform small animal dentistry</i> <ul style="list-style-type: none"> • <i>Perform routine dental prophylaxis(manual and machine)</i> • <i>Perform routine dental radiograph imaging techniques</i> 		
Husbandry		
Understand therapeutic bathing, basic grooming, and dipping of small animals.		
<i>Trim nails (dog, cat, exotics and birds)</i>		
<i>Clean sheath (horse) (NE)</i>		
Therapeutics		
<i>Express canine anal sacs</i>		
<i>Clean and medicate ears (dog, cat)</i>		
<i>Administer intra mammary treatment (mastitis therapy only) (NE)</i>		
<i>Administer enemas (GROUP)</i>		

TASK	INCLUDED IN COURSE	INSTRUCTOR
<i>Perform ocular diagnostic tests</i> <ul style="list-style-type: none"> • <i>Apply topical medication to eye</i> • <i>Perform fluorescein staining and Schirmer tear test</i> • <i>Perform ocular tonometry</i> 		
<i>Apply equine leg & tail wraps</i>		
<i>Apply and remove bandages, splints and sutures</i>		
<i>Remove casts (NE)</i>		
Administer physical therapy (hydrotherapy, Post-operative, orthopaedic, neurological) (NE)		
Explain care of recumbent patient		
Maintain chest, tracheotomy and pharyngostomy tubes (NE)		
<i>Apply established emergency protocols and maintain emergency medical supplies</i>		
<i>Collect, cross-match and give blood transfusion (NE) (GROUP)</i>		
Explain principles of orphan animal care (NE)		
Demonstrate understanding of nursing care of newborns		
Demonstrate understanding of wound management and abscess care		
Sample collection		
<i>Collect urine sample</i> <ul style="list-style-type: none"> • <i>Catheterize male dogs and cats(GROUP)</i> • <i>Collect voided urine sample</i> • <i>Perform cystocentesis (small animal) (GROUP)</i> 		
<i>Collect and examine skin scrapings</i>		
Prepare mare for vaginal examination & cervical culture (NE)		
LABORATORY ANIMAL PROCEDURES		
Explain basic principles of animal research protocols		
Rodents and Rabbits		
<i>Recognize common species/breeds of rodents and rabbits</i>		
<i>Restrain and determine sex of common species/breeds of rodents and rabbits</i>		
<i>Perform basic care procedures, e.g. feeding, watering, breeding, identification and handling</i>		
<i>Administer drugs or medicaments, using appropriate sites and routes</i>		
<i>Collect blood samples (GROUP)</i>		

TASK	INCLUDED IN COURSE	INSTRUCTOR
<i>Perform oral dosing (GROUP)</i>		
Know anaesthetic and recovery procedures		
Explain common disease signs		
<i>Clip teeth of rabbits & guinea pigs</i>		
<i>Clean & medicate ear (rabbit) (NE)</i>		
Avian, Exotic & Fish Procedures		
<i>Recognize and restrain common species of birds</i>		
<i>Recognize and restrain reptiles, amphibians and ferrets (NE)</i>		
Demonstrate understanding of basic avian and exotic animal care procedures (e.g., feeding, watering, breeding, identification, caging & aquarium care)		
<i>Perform a physical examination (NE)</i>		
Administer or inject drugs using appropriate sites & routes for each species (NE)		
<i>Collect appropriate body tissues or fluids from live animals and perform laboratory procedures (NE)</i>		
<i>Anaesthetize avian and exotic animals (NE)</i>		
RADIOLOGY AND DIAGNOSTIC IMAGING		
<i>Implement & follow recommended radiation safety measures</i>		
<i>Prepare and use radiographic technique charts (GROUP)</i>		
<i>Take diagnostic radiographs using stationary and portable radiographic equipment</i> <ul style="list-style-type: none"> • <i>Position large and small animal patients (horses, dogs, cats and birds)</i> • <i>Perform radiographic techniques utilized in assessing hip dysplasia (GROUP)</i> • <i>Demonstrate an understanding of the modifications of diagnostic imaging techniques as they apply to mice, rats, guinea pigs, lizards and amphibians</i> 		
<i>Process diagnostic radiographs</i> <ul style="list-style-type: none"> • <i>Automatic processing of exposed film (hand and digital are NE)</i> • <i>Maintain quality control</i> • <i>Label, file & store film</i> • <i>Complete radiographic logs, reports, files and records.</i> 		

TASK	INCLUDED IN COURSE	INSTRUCTOR
Properly care for radiographic equipment <ul style="list-style-type: none"> • Clean screens • Recognize faulty equipment operation 		
<i>Perform various contrast media studies (GI series, pneumocystogram, intravenous urogram or other) (GROUP)</i>		
<i>Use ultrasound equipment (NE)</i>		
<i>Use endoscopic equipment (NE)</i>		
LABORATORY PROCEDURES		
<i>Prepare laboratory samples for shipment</i>		
<i>Maintain laboratory equipment</i>		
<i>Perform quality control procedures</i>		
Explain basic principles of laboratory safety		
Urinalysis		
<ul style="list-style-type: none"> • <i>Determine physical properties (eg. color, clarity, specific gravity)</i> • <i>Test chemical properties</i> • <i>Examine and identify sediment</i> 		
TASK	INCLUDED IN COURSE	INSTRUCTOR
Hematologic Evaluations		
Collect samples for procedures		
<i>Perform CBC:</i> <ul style="list-style-type: none"> • Haemoglobin • Hematocrit • Total protein (refractometer) • White cell count (Unopette and automated cell counter) • Red cell count (PCV or electronic cell counter) 		
<i>Microscopic examination of blood films:</i> <ol style="list-style-type: none"> 1. <i>prepare blood film and stain</i> 2. <i>perform leukocyte differential: normal vs. abnormal</i> 3. <i>perform erythrocyte morphologic evaluation, normal vs. abnormal</i> 4. <i>estimate platelet count</i> 5. <i>calculate absolute values</i> 6. <i>perform white blood cell correction for nucleated red cells</i> 		
<i>Perform reticulocyte count</i>		
<i>Perform platelet count (Unopette and automated cell counter)</i>		

TASK	INCLUDED IN COURSE	INSTRUCTOR
<i>Calculate haematologic indices</i>		
Identify blood parasites: <ul style="list-style-type: none"> • <i>Dirofilaria</i> sp/<i>Dipetalonema</i> sp – direct, antigen kit (Knots, filter – both NE) • Hemotropic <i>Mycoplasma</i> sp(formerly <i>Haemobartonella</i> sp) 		
<i>Perform blood chemistry tests (BUN, glucose, common enzymes)</i>		
<i>Collect and prepare serum samples and perform serologic tests (ELIZA, slide/card agglutinations)</i>		
Perform Parasitologic Procedures		
<i>Collect samples</i>		
Test for external parasites <ol style="list-style-type: none"> 1. Prepare sample 2. Identify: <ul style="list-style-type: none"> - Fleas - Flies - Lice - Mites - Ticks 		
<i>Test for internal parasites</i> <ol style="list-style-type: none"> 1. <i>Prepare floatation solutions (NE)</i> 2. <i>Perform faecal flotations</i> 3. <i>Perform faecal sedimentation</i> 4. <i>Perform direct smears</i> 5. <i>Scotch tape retrieval of pinworm ova (NE)</i> 6. <i>Baermann tests</i> 		
Identify common parasitic forms, their ova and apply knowledge of common parasite life cycles <ul style="list-style-type: none"> - Nematodes - Trematodes - Cestodes - Protozoa 		
Perform coprologic tests (NE)		
Perform Microbiologic Procedures		
<i>Perform bacteriologic procedures</i> <ol style="list-style-type: none"> 1. <i>Culture bacteria & perform sensitivity tests.</i> 2. <i>Identify common animal pathogens using commercially available media and reagents (GROUP).</i> 3. <i>Perform common biochemical tests (GROUP)</i> <i>Perform staining procedures</i>		
<i>Culture and identify common dermatophytes</i>		

TASK	INCLUDED IN COURSE	INSTRUCTOR
<i>CMT, bacterial culture (GROUP)</i>		
Perform Cytologic Procedures		
<i>Collect, prepare and evaluate canine vaginal smears (GROUP)</i>		
<i>Assist in collecting, preparing and appropriately evaluating transudate, exudates & cytologic specimens (joint, cerebrospinal, airway and body cavity) (NE)</i>		
<i>Perform fine needle tissue aspirates and impression smears (NE)</i>		
<i>Prepare and stain bone marrow specimens (differentiate between benign and malignant) (NE)</i>		
<i>Perform semen evaluation (NE)</i>		
<i>Explain timing and types of pregnancy testing (NE)</i>		
<i>Assist with artificial insemination (NE)</i>		
Necropsy Procedures		
<i>Perform prosection on non-preserved animal (GROUP)</i>		
<i>Collect samples, store and ship according to laboratory protocols (GROUP)</i>		
<i>Explain how to handle rabies suspects & samples safely</i>		
<i>Handle disposal of dead animals (NE)</i>		
<i>Perform euthanasia procedures (NE)</i>		

SAMPLE

Appendix C – Summary of Faculty Interviews and Student Focus Groups

Animal Health Technology Focus Group Interviews

Early Leavers: December 1, 2011

Graduates: January 19, 2012

Current Students: January 30, 2012

Faculty: November 28 - December 12, 2011

Marketing / Information / Application process (15 minutes)

- 1. What information did you receive, through the admission process (in advance of classes beginning), to enable you to determine if the program (and career) was a good fit for you?**

Early Leavers: This was the second entry into the program for all participants so they were asked to think of the context as the second time they entered into the program.

- Received big college book that gave a brief overview of the program;
- Application was not processed correctly causing an additional year making (total of three year wait)

Graduates

80 hours volunteer / work experience

- It is good to see behind the scenes in a clinic before entering the program
- 80 hours can be a long time if a person is also working and clinics often only take one volunteer at a time
- The large animal experience is easy to find and is interesting
- The experience gained in the 80 hours can vary:
 - Depends on the clinic
 - Can be a lot of laundry
 - Most don't usually get to do much due to lack of experience and safety considerations but there is usually the opportunity to observe a lot
 - What a person gets to observe depends on who is working and how busy it is
 - Some get real hands-on experience
- It is better than no experience and some people who begin the 80 hours decide not complete it

Orientation

- We knew, from the orientation, what we were getting into. It was clear that:
 - The program is a lot of work
 - Students need to be good in math and science
 - Techs interact with people, not just animals
 - The career is not playing with cute puppies
 - There are aspects of the career that can be gross / horrible

- Strategies for the orientation that are seen to be effective include:
 - Current students talking to prospective students, as prospective students may be more likely to listen to students.
 - Current students describing their personal study schedule
 - Showing a test schedule and an A&P exam outline
 - Providing a building tour
- Suggested enhancements for the orientation include:
 - Update the videos of work as a tech
 - Even greater emphasis on how much Techs talk to clients
 - Techs' role in euthanasia

Testing / advising

- The testing is viewed as worthwhile as a signal to students of areas needing work
- These graduates met with faculty regarding their test results after the program started and suggested that the advising meeting occur as part of the application process
- None participated in any upgrading
- High school grades would probably not be a good predictor of success in the program – a lot can change from high school

Additional points regarding Marketing / Information / Application process

- It is hard to enter the program on short notification and at the last minute. Anything that would encourage students to make a stronger commitment to their spot in the program earlier might help identify open spots earlier.
- It is fair that a person doesn't lose their spot on the wait list if they turn down a spot.

Current Students

- Looked at the website x 3
- Information session and tour
- Career cruising website led to RRC site

Faculty: How effective are the marketing, information and application process in enabling students to determine if the program (and career) is a good fit for them? 80 hours volunteer / work experience

- Completion of the 80 hours of volunteering is viewed, by some, as an indication of commitment by prospective students.
 - Enables students to determine if the program (and career) is a good fit,
 - Difficult to determine because there is no way to know how many students, through fulfilling this requirement, decided not to apply to the program.
 - Generally considered to be worthwhile, as is the specific requirement that it include some large animal experience.
 - Similarly, a comparison of students leaving the program for this reason now, as compared to prior to the implementation of this requirement, is not known.
 - This requirement is not viewed as requiring changes.
 - Students are not always meaningfully engaged for the 80 hours.

- It can be a challenge for clinics to keep even an enthusiastic volunteer occupied meaningfully; reduced requirement of 40 hours could accomplish the purpose of the volunteer experience and reduce the responsibility of the clinics.
 - Some volunteers do not take the initiative to get involved
 - Some clinics are not willing to expose students to a range of experiences.
 - A checklist of required experiences may be of some assistance in these regards.
- Notwithstanding this requirement, there are students who leave the program most years because they determine that the field is not for them (generally not considered to be a significant number of students)
- It was pointed out, however, that There were different perspectives on this:

Orientation

- The orientation is viewed as an opportunity to give students information about the career and the program.
 - Career
 - Tasks performed in clinics (video)
 - Wages and work hours
 - Job opportunities
 - Need to relate to people
 - Program
 - Content / workload (course outlines, test schedule, required study habits)
 - Life as a student (current students)
- Staff are not aware of data on how many students discontinue the enrollment process because of information gained through the orientation
- Staff are not aware of data on any change in the number of students leaving the program before completion, as compared to prior to the implementation of an orientation.
- Students do not gain the appreciation of the demands of the program that we want them to gain through the orientation. There are 2 explanations for this:
 - “Hard work” is relative to an individual’s past experience as exemplified in the following quote. “A university grad said she thought she knew what hard work was but didn’t realize until in program what we had meant when we said it was hard work.”
 - Students are so excited about the program that they shut out anything that they don’t want to hear.
 - There is a need to correct the disconnect between telling them it will be a lot of work and students realizing how much work it will be
- Some possible items for addition to the orientation:
 - Issues like euthanasia can have big impact; the vet does this but technologists are often holding the animal and expected to interact with the family to a certain extent; people can have baggage related to this
 - There are invasive things like the first injection
 - Students need to have rabies vaccine

Testing / Advising

- The diagnostic testing is generally considered to be worthwhile. There are several perspectives:

- Helpful in predicting success
- Gives people coming in an understanding of whether they will be able to do program
- We need to keep an eye on students with poor test results
- In this 2nd year for testing and advising, 23 students were interviewed and, of those, 6 decided not to enroll. It is not known why they decided not to enroll.
- People who have left for academic reasons were almost 100% interviewed
- There are several perspectives regarding upgrading:
 - There is a sheet of resources for upgrading possibilities ranging from web sites to adult education centers. Other than a 4 day refresher session, upgrading is external to the college and not specific to AHT.
 - 4 days of upgrading is not enough for deficiencies going back to elementary
 - Need to use data re success of students weak in diagnostic testing from previous years to counsel next group of students & strongly recommend upgrading; weak test scores do not mean that someone can't be successful
 - Would be far more successful if upgrading mandated; would reduce disappointment; some could be great techs but not prepared for academics
 - Would like students to meet minimum standard in diagnostic testing because they are not going to make it
- Can't use high school marks to predict success in the program but can use them to start a conversation with students. Need to encourage students to be honest with themselves as to why they got low high school marks – not engaged vs. didn't understand?
- Students who fail the night course chemistry are never successful in the program; can we use this information to advise

Additional points regarding Marketing / Information / Application process.

- It was suggested that successful completion of a pre AHT term/year containing foundation/science courses could be used to determine entrance to the program although it was generally acknowledged that the low wages in the field would not make any extension beyond 2 years justifiable.
- Would aptitude testing be of assistance? We have had students return who had weaknesses and were successful due to their determination.
- Although we have some fabulous candidates in the program, low pay may be an issue related to attracting high quality individuals or males

2. Is there additional information that would have been useful?

Early Leavers

- Very challenging program; stated in catalogue that it would be a heavy course load
- Should have mentioned that beside high school, university or science courses would be useful while waiting to get into program; students out of high school have a tough time
- Encourage upgrade while we wait

Current Students

- Information session was useful
- Volunteer hours were good eye opener

3. Did you take advantage of the upgrading sessions offered? Why or why not? Were the sessions effective?

Early Leavers

- Offered a course in August to brush up on Chemistry & Bio (about \$200) but it was a waste of time; instructor had poor English skills; content not related to the program; chemistry at night did not include topics from day program;
- Lived out of town so could not attend because no place to stay
- Took this in the first year of waiting; at start of program, content was no longer fresh
- Because of mess-up in application, I was not offered the Chemistry upgrading while other classmates did;

Current Students

- Too short notice of course availability to take any courses in advance (Chemistry)
- Did assessment tests and did well so no upgrading offered

Program Effectiveness (10 minutes)

4. What parts of the program, that you completed, do you believe were the most helpful in preparing you to work as an AHT? Why?

Early Leavers

- Dr. Millar's course was the most practical; had the most hands on things that I would be doing in a clinic (1st and 2nd semester)
- Medical Nursing lab was very useful
- Working with the animals was very useful;
- Hands-on with theory
- Animal husbandry labs were also good – basic clinic duties were helpful
- 2nd term clinical math was useful;
- A & P labs in 1st term were not useful
- 2nd term was useful even though I didn't always grasp it

Graduates

- The labs and practicums were identified as the most helpful parts of the program in preparing for work as an AHT.
- Graduates value having been taught:
 - “to a high standard even if clinics don't meet the standard”
 - the “why” (theory) because:
 - there are 100 ways to do things and we know how to decide if it is safe to do it differently
 - of our big role in client education
 - we need to understand how body systems work
- we don't diagnose but we can anticipate and set up and theory helps for that

Current Students

- In fourth term - practical and hands-on aspects the best parts
 - Term 1 & 2 were some practical but not a whole lot – drawing up into a syringe but with fake drugs; restraining dogs and cats and stuffed animals; good start to learning about the profession
 - Clinic placement at the end of term 2 was good
 - Term 3 was much more practical
- More prepared each week in the fourth term
- Prep for clinic placement was good and helpful
- 3 week practicum was helpful and some got a summer job out of it; we got to do most things on the checklist
- We had assignments over the summer to help us not forget what we learned
- 2 students did not work over the summer but was not detrimental to learning
- Math was very structured for our program
- Medical and surgical nursing was great;
- Pharmacology was interesting but this is too much to learn
- Husbandry was good – admitting and file management was good

Faculty: What parts of the program do you find are most helpful in preparing students to work as an AHT? Why?

- A majority indicated that practical skills combined with underlying theoretical knowledge is most helpful in preparing students to work as AHTs.
 - Key areas are medical nursing, anaesthesia, surgical nursing, dentistry and diagnostic imaging.
 - There is an important distinction between a technician (practical skills) and a technologist (practical skills + underlying knowledge)
 - Graduates are more likely to stay in the field because they are not just technicians repeating procedures
- Graduates are well prepared to write registration exams. In Canada & US, there is a 30% failure rate, while we have the odd graduate who is not successful because they don't prepare.
- We develop attitude and communication skills along with technical skills & underlying knowledge
- We do a good job of giving a broad range of experience – exotics, farm, small animals (cats & dogs)
- Students make industry contacts in clinics & research and develop resume & interview skills
- For the most part, people in practice are happy with graduates
- A key asset is the relationships that staff have with industry

5. What parts of the program, that you completed, do you believe were the least helpful in preparing you to work as an AHT? Why?

Early Leavers

- Online genetics was a waste especially that we did not have an instructor; In class would have been better so that we could ask or have things explained; teacher is right there to explain; In class was good when the instructor was present and she had notes
- 1st term math was not useful

- Microbiology was fun but the second time around was not good; half the information was gone; we just brushed on things
- Not much practical skills in 1st semester
- Heavy on theory; theory is useful when blended with hands-on; do both labs and theory would help us understand
- Very few assignments/projects; they should be worth 15%; exams should be worth less and assignments should be graded;
- Everything is a test; some tests were worth 70-80%
- Too much information in the courses
- Too many classes in first term
- Too many brutal exams in a short period of time so we had no time to study for each exam
- No answer keys for assignments
- Teachers gave us that feeling that we were not smart and that half the class would fail; Some people come into the program with varying experiences but some of the teachers just don't care
- Teachers not keeping up with each other because the courses do not seem to connect
- Organic chemistry teacher was hard to understand; slides in point form were no good; instructor read off the slide with heavy accent
- Instructor read out of her book and we were supposed to write it down as she dictated; it would be helpful if there were slides/notes that we could refer to
- Don't understand why the program has such a high failure rate; If half are failing, what's wrong with the teaching or the program?
- If the program was part-time, more students would succeed because they have more time to study and/or work; many of us have to work so full-time program is not serving all students
- It would be helpful if it was a longer program
- The textbooks were useless (used only once or twice); prohibitively expensive
- I was a test dummy to do math, organic chemistry and hematology but organic chemistry was different and we didn't do that originally; We felt that we were being set up for failure;
- I retook 6 courses of the 10 from 1st term and I did better;
- Difficult to get a tutor; counselor told us to ask 2nd year students but they are busy; We asked for tutors and were told that we could get 12 hours of tutoring but when we ask for help, we were not contacted to offer any; someone tutored me in Math that was awesome but he was not part of the program; it would be useful to have someone who is familiar with the program even if it's only a related; Tutors could be from other programs; one graduate did a group tutoring session but that was not effective; I need more one-on-one tutoring

Graduates

- Need to develop more confidence through practice
- Needs to be more practical even if a year added to program
- having weekend job is the only way to get enough experience / practice
 - if rely only on practice in program won't have nearly enough experience
 - some responsibility to get practice outside program but some can't get weekend job because of work load or family commitment
 - will be poor tech if they rely only on practice in the program
 - last practicum helpful need to make good use of it
 - need to do these things on regular basis i.e. feline blood draw
- Add time at end of year 2 so that more practical integrated throughout that year
- Microbiology could be eliminated (was taught by someone outside program)
 - a lot covered in other courses
 - don't know a single clinic that does plating and that's a big part of the labs, we send all of that away, if it is a lab technology program great,
 - effect of antibiotic covered in pharmacology,
 - structures of bacteria and viruses in A&P and prep for clinic placement
- Radiology (was taught by someone outside program)
 - don't need to know the details of the physics, brief background ok, not 4 weeks
 - need more time on safety
 - need more hands on related to imaging, cut 1 theory/week and add lab class.
- Genetics could be eliminated
 - we are not genetic counselors
 - some genetics could be in reproduction
 - Genetics is overlap with Bio 40S; could make Bio 40S a prerequisite – contains plants, taxonomies and genetics
- Chemistry could be eliminated
 - 1st term is ions, molarity, solutions
 - never use molarity again and it is in Chemistry 40S
 - dilutions is math
 - stoichiometry not needed
 - if we didn't know the content of this course, we would be fine in program
 - organic chemistry does come in handy with pharmacology, could be tied into biochemistry
 - drawing good blood sample needs to be kept and moved to another course
- Lab safety could be done before entry
 - could be online WHIMIS before starting program
 - lab safety was a take home package
 - have to renew WHIMIS online every year anyway

- A&P is important course
 - Reduce or eliminate taxonomies
 - a lot of invertebrates, amphibians
 - Biology 40S covers taxonomies
- Practicum Prep could be eliminated if more practical throughout year
 - autoclaving repeated in surgical nursing
- Clinic Practice add
 - timelines for storing records
 - criteria used for clinic inspections
 - communication - resumes, interviews, public speaking, newsletters (a little bit) from communication course. Could use these 4 things to teach language, can coach language skills as do these.
 - people skills
 - reporting to the doctor, how to talk to doctors
 - relaying information
 - talking to clients about euthanasia, grieving, could use role playing
- Communication
 - move key features to Clinic Practice Course or, if must be stand alone, reduce to 1 course
 - focus on resumes, interviews, public speaking, newsletters (a little bit)
 - use these 4 things to teach language, can coach language skills through these
 - pronouns, etc. are not necessary in isolation
- Emergency Nursing
 - add labs to emergency nursing, not prepared for emergency
 - simulated emergencies with models would help a lot
 - 2 weeks into working huge anesthetic emergency; only thing that came to mind was when instructors acted out anesthetic emergency; textbook did not come to mind
- Biochemistry
 - is tied into medical nursing; enzymes, etc. – need that 100%
- Exotics
 - important – probably enough, good exposure to build on
- Lab animal
 - going just once to each of the three would be sufficient
 - Health Science was best
- Nutrition
 - valuable course but online Hills nutrition course not necessary as it takes a long time and the content is taught in nutrition class
- Parasitology
 - need to be able to identify but not use Latin name
 - memorizing is a waste of time as won't remember there is a chart inside cupboard
 - life cycles of parasites are important

- spend a lot of time on fecal floats, not done often
- need more protozooids as this is what we are concerned about in clinic
- if worms we deworm
- Anaesthesia
 - important
- Medical nursing
 - important
- Had no clue how to do urine analysis, fecal smears, wet mounts, skin scraping
- Don't need so much blood smear, rarely do manual differential under microscope for blood
- Add urine analysis; we do urine analysis with microscope every day
- More microscope work needed as we are relied on for that
- Stain is not necessary
- No need to make shivers or fcasol solutions as we purchase them
- Models are helpful to build dexterity with equipment like needles
- Balance of large small animal in program
 - is probably ok but large animal is in 1st year and small animal is in 2nd year
 - did a lot of large animal bandaging but still not confident with small animal bandaging
 - need more small animal labs
 - if time is not an issue add small animal time
- if time is an issue, reduce large animal time although large animal labs valuable and some of the favorite; those who work in country are most often from country

Current Students

- 80 hours experience prior to was not always useful – mostly watching time; would be useful to have done some of the skills rather than folding laundry
- Bombarded with theory in first term
- We're taught things once and then tested – not good
- Had to do practical things in 3rd term that we did not know yet
- No point to Chemistry & Micro unless you're working in virology lab
- Communications course did not seem to relate to industry; should not be a whole course; we do a lot of communication stuff in other courses; too much focus on grammar; maybe course would be useful for people who are not good at writing and grammar
- 2nd term communication course much more practical
- Micro course was a lot of copying of notes of a lot of information; the course was laid out as notes to copy; most clinics send out the lab work anyway; maybe this is arbitrary because it's on the national exam;
- Too much crammed into one course – i.e. Microbiology; I don't remember most of it
- Chemistry course will never be used in clinics; labs were good; other information was useless

- Genetics course was online but no structure; people did not learn as much this way; classroom option was better based on another student's notes from a previous year; classroom would be better; course not designed properly; more explanation needed; more engaged in class; does not seem to be relevant to my career in a clinic; not using much of this except for diseases
- Pharmacology was good but too many drugs covered; should focus on the main drugs that are used in clinics;

Faculty: What parts of the program do you find least helpful in preparing students to work as an AHT? Why?

- A majority indicated that all practical skills are taught well but that additional practice of the skills would be desirable. Several justifications were provided:
 - Will lead to improved practicum experience
 - Students would go to the practicum with more confidence and skill. When you have a person who is confident and shows you they can do it, you give them responsibility and they have a better practicum experience.
 - Can't rely on practicum to develop all skills because they are busy and students can be shunted out of way because slower; more practice in the program would result in a higher speed which would enable them to integrate further and more quickly when on the practicum or when starting work.
 - Students would be better able to judge and adapt to processes encountered on practicum
 - Recent pilot has demonstrated improved performance
 - We just ran repeated restraints and injections on models that improved performance.
 - Increase success / safety for graduates
 - The art of animal reading and handling will help prevent a bad bite that can end a career, can be great at lab stuff but must be able to handle animals.
 - Anaesthesia is scary when you are in a clinic. Need more practice with anesthesiology so that you are less likely to panic in an emergency and have a better sense of normal so you can recognize abnormal, which can be a life and death matter.
 - Requests by students and others
 - This has been identified to us in various ways.
 - Students have requested more practical time.
- Specific skills for additional practice that were mentioned include:
 - Dentistry, anaesthesia, venipuncture, handling cats, inter-muscular injections
 - Anaesthesia is critical; start practical experience sooner (move term 3 to term 2 and term 4 to term 3); would make more dentistry possible; do more to build confidence; is taught well, just need more practice; need more instruction/experience in school before in clinic, is scary when you are in a clinic
 - Need live animals for dentistry to compliment cadavers; can't distinguish freezer burn vs. gum disease, would practice anaesthesia, dentals take very long time when graduate.
 - Need more practice giving injections and placing IVs
 - More animal restraint ahead of practicum
 - Need more experience with dentistry and large dogs
 - More large animal surgical nursing and anaesthesia, do good amount of large animal handling and theory but not much with large animals in year 2

- There were three issues raised related to increasing practice of practical skills:
 - Time
 - It is generally felt that the program is full. This year we have added more practical time; the course is jam packed.
 - Areas for investigation to create time for more practice of practical skills include:
 - Distribute genetics to other courses and eliminate stand alone course.
 - Pair and tweak courses (theory & practical); tweak time out of courses to create more lab time in the course.
 - Increase length of program especially in year 2 by extending beyond April because students are not looking for summer jobs and are not in competition with university graduates; can't lengthen program beyond 2 years because wages in field don't justify that much tuition.
 - If there is more practical experience during the term, could examine the need for / length of 2 week practicum preparation at the end of year 1
 - Have students complete some foundation in evenings in advance; is similar setup for nursing; could do 3 basic courses ahead of time; not sure if could require this of everyone; if not everyone, then it doesn't make time
 - We do academics well but it consumes so much time that no time left for practical stuff; we need to resolve issue of academically weak students so we can take out basic science; or they take semester of basic sciences; to free up time for practical skills; a chunk of 1st term has to go; always had basic sciences because part of bio/chem; 1st year was bio/chem and second year was animal health
 - Not sure how applicable biochemistry course is for general practice; may only be applicable for those who go into research
 - There was speculation as to the impact of reducing the time spent teaching basic sciences courses in the program. Some speculated that there would be no affect for 1/4 to 1/3 of the students; 1/3 to 1/2 would be negatively affected because the material is new to them or they have forgotten it; 1/3 who drop out will drop out anyway
 - Look at how we do stuff in first year, in particular 1st term; it is so foundational; we would lose a lot more if we didn't teach foundational stuff because they have been out of school: they are ready to learn it; how do we not waste a term getting them up to speed; would like to do practical skills and applied theory from beginning; capable students bored
 - We don't want to prepare these people to think they have to be veterinary level diagnostics people; need to be careful about teaching too much that is veterinary; there is a knowledge base that has to be there; how much knowledge base do they need to be able to effectively do this and to have a reasonable understanding about what they are doing?; need to be clear about the role and prepare for the role

- Facilities
 - We need more time to run repetitions – all repetitions do not need to be on live animals (for example, if 10 repetitions are required 6 could be on models & 4 could be on live animals); we need more models
 - If lower attrition and same intake, then issue of practical experience will be even greater issue.
 - Large animals require contracts with cost attached
 - Facility needs to be set up more like a clinic so students get used to working in a clinic and to the parts of a clinic
 - Need 2 large dog kennels to increase exposure and comfort; students can be afraid of large dogs
 - Need space for cats to play as currently move stuff from storage room to radiology room to make play space in storage room
 - Need to resolve ventilation issues in x-ray room
 - Need to resolve issue that new computer generated radiographs are made on Radiography's equipment so instructional time & quick x-rays are restricted
 - relationships with industry could contribute to resources
- Staffing
 - Live animals require almost one-on-one supervision of students
 - Could increase practical experience with more staff
- In clinic evaluations, students are scored lower on “ability to see things that need to be done”; we need to integrate work ethic into labs in a more conscious way; some have not had role models; not because they are not good people; 80% won't see rust on sink; certain amount can be learned; is not just a matter of having it or not; can teach people to find the things that need attention

Practical Experience (10 minutes)

6. Do you believe the amount and variety of experiences you had, in the program, with live animals (labs, practicum, etc.) were preparing you for the realities of the work place? Explain.

Early Leavers

- For those with no experience with large animals, they were in for a shock
- Students who barely learn how to walk a horse in the 1st semester has to give them needles in the second semester
- I had no large animal experience prior to program so this was hard for me
- There was some stuff about avian but nothing about goats and sheep; I suggested this
- Learned a bit of theory in Medical Lab
- Went to the stockyards, auction yards, research centre to see cows and hogs useful but not enough; need much more experience with large animals
- During second term, we learn in one day what we have to do and then we have a test 2-3 months later; this is not enough because sometimes we forget; you have to find an owner with horses if you want more practice; if you have no one to ask, you're not prepared; models are different from a living animal; even the requirement of 8 hours for large animals as volunteer experience is not enough

- A & P labs can be viewed in the evenings'; that was helpful; live animal experience could be offered this way; animal husbandry course was very useful because you could go before school and at lunch time to interact with the animals
- Medical nursing labs are very rushed; they need to schedule more time than 2 hours for the unforeseen (cows act up or don't cooperate so it takes more time)

Graduates

Practicum at end of 1st year

- 3 weeks straight at end of year 1 is great
- would suggest increasing tasks for this practicum – they can do more
 - add lab work
 - add urine analysis
 - remove / reduce fecal floats (especially on cats & dogs)
 - everything covered in first year should be on the task list
- end of year is best because you don't know anything until that point

Practicum at end of 2nd year

- 3 weeks at end is enough
- last practicum very helpful; students need to make good use of it

Alternating Tuesdays in 2nd year

- Semester 1
 - Tuesdays every second week is not a good experience
 - haven't had enough experience to do anything - you know no more than 1st year
 - when clinics realize this, it sets the precedent for lack of engagement for the rest of the year, especially if you are not assertive enough to tell them when you have learned how to perform a skill in school
 - you forget where things are in 2 weeks and they don't remember what you have done or what you can do
 - Suggest putting a week before or after (best) exams in December
- Semester 2
 - can get away with every 2nd Tuesday in 2nd semester because you know more
 - can be slow time of year in clinics
 - prefer to do surgery practicum in school with people who can teach us rather than in clinics with techs too stressed out and short of time to teach us
- suggest streamlining paperwork related to anaesthesia; students do both the clinic form and the RRC forms and this takes the student a good part of afternoon

Current Students

- Amount of time with live animals is good, working on a sponge and then transitioning on a live animals is hard; we are not allowed to work on animals unless it is necessary
- We should have more time to practice on live animals before testing – equine labs, bovine labs, tattoos; we have one practices and then we are tested;
- Teachers are a bit lax although they scare us (some students end up crying about this);
- We could use more cat cadavers to practice tattooing and dogs for dentistry practice

- The practicums are great but depends on where you go; you choose your own clinics with instructor input; clinics chosen for the services they provide (mixed animal); how busy they are and proximity to home; most clinics have RRC graduates so they are used to students

Faculty: Does the amount and variety of experiences with live animals (labs, practicum, etc.) sufficiently prepare students for the realities of the work place? Provide specific examples.

The majority of staff expressed that the program provides sufficient breadth of exposure to live animals (particularly animals found in Manitoba) but that more depth or practice is desirable for the reasons and in the areas outlined in #3 above.

Several challenges to increased experience with live animals were outlined:

- There are limits on how many times an animal can be poked & prodded
- Perceived competition with clinics; currently program only offers services within the College; not sure of support from industry if took animals from outside
- Using outside facilities for experience with live animals requires ongoing maintenance of relationships and building new relationships as circumstances change
- Experience with live animals is difficult in an academic institution; in Saskatchewan & Alberta, colleges go to university veterinary facilities for practical
- Program brings in healthy animals to minimize risks; students just exposed to normal here; no hurt animals; we hope they find this experience in practicums
- Need facilities to accommodate animals and staff to closely supervise students with animals

Faculty: Does the practicum sufficiently prepare students for the realities of the work place? Length? Timing in program? Match with students' level of development?

End of year one

Generally, staff views the practicum at the end of 1st year as very positive.

- Students learn clinic culture, physical exams and monitoring
- By the end of this practicum, students know their way around the clinic and can help out with most things
- Lengthening this practicum would infringe on summer jobs
- There are 2 weeks of intensive labs (that students like) prior to the practicum

Mid-year two

Generally, staff have concerns about the every 2nd Tuesday practicum in 2nd year. Issues identified are:

- It quite a variable experience
- Some clinics try to use students as cleaners
- Clinics can be slow, with no surgery that day
- Students select their own clinics
- Students can get mixed up as they are in the middle of learning something at RRC and it is done differently at the clinic
- It is hard for students to fit in and get comfortable at the clinic
- Students are not integrated as well as they would if time was in a block and it is more difficult to build momentum

Some suggestions included:

- Combine the time into a block
- Be more selective about the clinics students go to
- Have students remain at the college to get more practice

End of year two

Generally, staff views the practicum at the end of 2nd year as very positive

- Students work hard and build momentum, once they have done 3 or 4 IV pulls, blood samples & restraining, they really learn; they come back beaming
- Students can pursue special interests through this practicum
- 60 – 80% have jobs before they finish practicum

There are different perspectives on the length of the practicum:

- It could be longer - 3 weeks can get short if there is a day off
- 3 weeks is fine - practicum should be no longer because employers ready to hire and students are ready to work

Several expressed concern about students doing their practicum in the clinic that has hired them in advance of graduating. Reasons are:

- Can be perceived as 3 weeks of free labor for the clinic
- Students need to see a range of opportunities so they know possibilities for change and growth rather than leaving profession if bored in future

There were a couple of suggestions for dealing with the issue:

- Continue to not allow students do their practicum where hired
- Move the practicum between terms 3 & 4

General comments

- The practicums are the only exposure to sick animals
- A variety of clinic experiences can help prepare students for employment
- The program used to have a small animal practicum and a mixed animal practicum that enabled students to better discover their interests; students, however, had issues with accommodations
- The program used to find the practicum placements; now students find their own placements; changed because some clinics were unhappy with placements
- Are clinics losing energy to host students?
 - A long-standing clinic and vet are not letting students observe surgery anymore; nothing is being said but what is changing?
 - Are students doing well on their practicums or are they turning clinics off?
- Checklists for practicums at the end of yr1 and mid yr2 ensure that skills practiced in practicum match those in program
- Staff goes out to visit students half way through practicums

Student Engagement (15 minutes)

7. What parts of the program did you find most effective in helping you learn?

Early Leavers

- Animal husbandry techs were very helpful; one of them graduated from the program so she knew what we were going through; 7-5 is a long day depending on who showed up
- PowerPoint versus reading notes were we have to try to write what she was reading
- Medical Nursing PP's were very useful
- One instructor posted her old notes for another teacher's course (Organic Chemistry)
- Some teachers had visuals which were useful

Graduates

- labs are the key
- hands on because that is what we do in our jobs as techs.
- hands on experience helped with reinforcement and retention of theory; had to study a lot more for things not covered in lab
 - 2 weeks into working huge anesthetic emergency; only thing that came to mind was when instructors acted out anesthetic emergency; textbook did not come to mind
 - bones and muscles took less time to study because we had labs
- Facilities and equipment pretty good
- Depends on teacher and courses; some courses were hard; students who did not pass courses were courses taught mostly by one instructor; some teachers teaching style match ours so we do better in those courses;
- Wanted more practicum at the beginning but it's okay now; we still have one practicum to do; 1st and 2nd practicum have checklist but in the 3rd we act like techs

Faculty: What parts of the program do you find are most effective in engaging students in learning?

The consensus of staff is that students are most engaged by aspects of the program that are perceived as relevant to their work with animals as an AHT and by aspects of the program where they are active.

Reference was made to characteristics of the students:

- A lot of the students are doers; they come to the college program because they like to be doing things
- Learn by seeing and doing
- Most of these students do not want to sit in the classroom; there are days in 1st year when students are in a classroom from 8 – 5 with a lunch break

The order of engagement for program content is 1) practical skills, 2) applied theory, 3) foundational theory

Specific content mentioned as engaging was:

- Animal husbandry - are active and applying their learning
- A&P - has labs; interesting way it is taught; learning about animals so it is fun
- Parasitology - test feces every Friday; they find it interesting

- Medical nursing - using it in clinic
- Working with cattle
- Surgical nursing - emergency care fun stuff

Teaching methods identified as engaging were:

- When there are animals involved
- Relate to animals
- Practicing what they have been learning
- Practical labs
- Tell stories
- Teacher talking about cases seen personally
- Teacher talking about mistakes seen / made, things that can happen day to day
- Demonstrations
- Visuals; showing items
- Using content of applied theory in foundational courses
- Teach theory close to when it is needed; i.e. teach stats as they need it for their labs and this works well

8. What parts of the program did you find least effective in helping you learn?

Early Leavers

- Organic chemistry and **labs were not taught by the same instructor** so they would say different things and theory and labs were not related at all; lab results were not the same; we were told to read the notes if we even had any and told to figure out weird values and % but for no apparent reason; it would have been better to have one teacher teaching both parts; the chemistry teacher was nice but could not teach; taught off the PP; he didn't know anything about the program; telling us to read notes is not good teaching; test did not match the instructions we were given
- In A & P, we were told to review all of our notes and information without enough time to write exams
- Exams are long and we have to do several of them in a row; our hands were cramping; even tests were like exams; we should have mini-tests rather than one big exam more frequently;
- More assignments would have been useful and to grade those rather than having all our marks based on tests;
- We did not get timely feedback from instructors; we had group leaders but we got no feedback;
- We had advisors but were told that we could not knock on their doors; they were not approachable; we tried to do it when we had some spare time;
- Some instructors were supportive; others were not;
- We had conflicting messages from the coordinator and other teachers
- In the first semester, students were agreeable; by the second semester there were definitely cliques based on marks; smarter students were in cliques who did not want to help the others; smaller class sizes may have helped; assignments could help to split or mix people up; most of the class was white so it was not a racial thing;
- I missed some time because of personal issues and even the teachers were not helpful; they would pass you in the hallway without comment
- I felt embarrassed that I was repeating some courses but I offered to help in whatever way I could; some students would accept help but others would take help but not return it

- Lab space was good; our classrooms were terrible in terms of space; rooms were over-booked several times and the space was cramped; the nursing rooms space was available but could not be used by us; some classrooms had equipment that did not work; classes were cancelled when the equipment didn't work

Graduates

- every one learns differently so it is hard to say, other than:
 - theory needs to be accompanied by hands on
 - repetition is important for memory
 - need larger AB31 study room
 - need more microscopes and not so crowded
 - need more access to things in the lab – closed and can't get in without instructor

Current Students

- Some courses were not useful;
- Not being taught things more than once and getting tested on it;
- Program crunched into two years so there is a lack of time; program should be extended in the 1st and 2nd years; should add another semester so we have more time; maybe an added semester to specialize; 1st year was brutal with 10 exams in 1st term; by the end of the first year, my brain was fried;
- term 3 was just as intense but for different reasons; there is too high turnover rate for students but if another semester was added that might help; some students are here for the 3rd time; I've had to write a supplemental exam for every term and I think I am smart enough;
- 10 exams is too much in one term; content should be spread out; some useless content should be removed; we don't remember most of the stuff;
- Some people have a lot of things going on in their lives besides school;
- None of us are working while in school but this is not practical for all of us;
- Dropout rate is very high; maybe an interview process to see work ethic; getting into the program should be more structured; RRC should have a one-on-one interview process to weed out students;
- Some students are really only taking up space for students; interview would help people on waiting list get in sooner;
- Maybe if volunteer hours were more structured, students would be better prepared;
- 30% dropout rate is really high so RRC needs to be a better job of giving students information;
- Maybe a video of some of the things we'll be doing (i.e. fecal Fridays; beef barn, drawing blood);
- This is not high school; course loads are much heavier;
- 4th term is assignment heavy; 1st and 2nd term were test heavy; time management is critical;
- I learn a lot from doing projects;
- Instructors are pretty helpful;
- Some teachers don't have enough experience with some courses so they don't always know how to answer the questions;
- Facilities are good; similar to clinics;

- Classmates get along really well; we work well in groups and can still work even if we are placed in those groups; last year there were some hard cliques (last year's graduating class) so there were some hard feelings;
- Every second Tuesday practicum is not working so well; we don't feel like we're in a clinic setting ; like the 3 week practicums better

Faculty

Areas identified as less effective in engaging students were:

- Theory is less engaging but necessary
- Foundational stuff is harder – cells, tissues, they don't like the classroom stuff like basic chemistry
- Communications program need enhancement – they don't always go. The practical work like clinic newsletters and public speaking are useful but they don't want to do it.

Suggestions to increase engagement were:

- The relevancy needs to be bridged; if something is seen to be irrelevant maybe it is or maybe it is not correlated to its purpose soon enough to get students engaged
- Should get students doing more on-line so that they are not sitting in classroom; hard to develop a quality online course
- Modular, mastery learning better because students need to complete at mastery level; in classroom students attention gone in 10 minutes, with module need to be on task
- Reduce basic sciences; add more labs; students will be in the classroom less and will be fresher when they are in the classroom
- In anesthesiology, would be nice if theory and practical more concurrent rather theory one term and practice the next; integrating theory with practical will make students more enthusiastic
- Move genetics from stand-alone course to applied theory where it is used i.e. reproduction
- Do organic chemistry because accrediting requires; could shorten chemistry; modules may help

Frustrating that some students say they can do it at home but not on test

Early Leaving (25 minutes)

9. Early Leavers: Why did you leave the program prior to completion?

- I didn't pass 3 courses in semester 2 so the teachers told me I was not allowed to go into term 3; they said I could re-apply but they were not very encouraging (two students said this)

Graduates: Did you ever consider leaving the program prior to completion? Why? Why did you decide to stay?

None of the graduates in the focus group had considered leaving the program early, but offered their perceptions:

- The stress is overwhelming and it gets to people.
- The volume is the issue, nothing is super difficult but there is so much and a lot is memorizing
- Eliminating the courses that don't prepare students to work as an AHT, discussed previously, would alleviate work load and related stress

- Chemistry and genetics freak people out but don't matter for the rest of the program or the job
- A&P is hard and important, students need to suck it up and do it
- We held ourselves to high standards and that added stress – wanted honor role
- There is a lot on the line as it is a career choice
- Instructors expect a lot and you want to please them, they encourage pride
- Performing in the labs in front of instructors is more stressful than writing an exam.
- More practical work would help, as it reinforces theory and that results in less time required to study the theory. For example, bones and muscles took less time to study because we had labs and we weren't just looking at pictures

Current Students: Did you ever consider leaving the program prior to completion? Why? Why did you decide to stay?

- Felt overwhelmed at times but never thought of leaving
- Was shocked about the low pay but I'm almost done so I can't quit now
- Average salary is about \$14-16 per hour but some clinics pay more
- Ability to make more money is there
- If terms were longer, we'd have gone crazy
- We have no financial constraints so we are lucky

Faculty: What reasons, for leaving the program prior to completion, have students shared with you?

Occasionally students leave prior to completion because of:

- Personal health reasons i.e. bad back
- Family issues
- Disinterest in the field
- Allergies

The majority of students who leave prior to completion do so because they are not able to be successful. Staff provided several explanations for the lack of success:

- Lack of study skills to deal with the volume of work
- Get so far behind - overwhelmed
- Not able to handle the volume of work along with family obligations or work to support themselves
- Lack of foundation skills - should have had upgrading
- Lack of ability - about 1/3 of students are very weak
- Some students say that their high school didn't prepare them (can't go by this)
- Some of the early leavers could have done it but they quit in their minds
- English is a second language

Students who leave the program prior to completion typically do poorly in multiple courses and leave before the end of 1st term.

Students like the program and are upset to leave; students really want it but can't be successful; some come back and work harder sooner and succeed; some return and again don't put in the required time

Several staff made comments about the ability/potential of the early leavers to have made a contribution in a clinic:

- We lose students before we can tell if they would be good techs

- If they can't handle the work load, they are probably not disciplined enough or able to multitask enough to do this job in a busy hospital
- We lose some students who:
 - are good technically with hands
 - catch on quickly (show once)
 - have good common sense
 - are hardworking and pleasant
 - can't handle the academics; not at an academic level to function at a college
 - don't have clue about why they are doing things
 - some come back and can't do it again
 - would be great assistants
- On the other hand, there are some students who:
 - have good marks
 - do not have good intuition with animals
 - are afraid to touch animals
 - need to be shown 3 times
- The concept of an assistant course was mentioned, with the following comments:
 - In the US there is an assistant course
 - CVMA outright refused to consider a 1 year assistant program
 - Could have negative impact on field / pay for techs as clinics could hire assistants for less than techs

10. Early Leavers: Is there anything that could have enabled you to continue in the program? Explain.

- I was told that if you fail a course more than twice, you were never allowed to go into the program ever again; since I was doing this the second time, I wish they would have told me that before I was used as a guinea pig; I checked the manual and it does not say that anywhere; after that I gave up; I was dealing with personal issues that caused me to fail 3 courses but I was only allowed to re-write 2;
- I did first term twice; did the second term but did not pass enough to advance to 3rd term
- Automatically withdrawn and told by instructor that I could return but she was not encouraging
- Can rewrite 2-3 exams but in 2nd term it's only two; this changed from previous years where you were allowed to rewrite 3;
- If I could re-write the exams or re-do the courses in the summer, I may have been able to continue
- If I had another opportunity to re-do the program, I would do so (2 students said this)
- If I had some resources to help me catch up, it would have been helpful (notes from students or teachers); posting PP notes would help
- I failed 4 courses in Term 1 and one instructor said that I could not continue; I applied again and was told that it could take another 1-2 years; after the headaches I had during admission and while I was in the program, I did not want to come back to RRC; I am doing a related program at another college and I am getting high marks; lost faith in the college
- All students want to continue in program
- Teachers have to be enthusiastic and care about us
- Good tutors would help

- Teachers have to use different ways to teach i.e. give a brief overview and then fill in the blanks; we like to see the big picture and then the small details; if teacher's teaching style is different from your learning style, you were SOL; if you don't fit the teacher's criteria for teaching, tough luck; the program I am currently doing is very different; the teachers care and will make the effort (all participants said this)
- Counselors at RRC made me feel worse; one counselor who I spoke to on a previous occasion could not even remember my name the second time I saw her
- If I am having issues with the teachers, that won't change if I return to RRC

Faculty: Are there graduates or current students who considered leaving the program prior to completion but decided to stay? Why?

- One student stayed and completed but didn't write industry exam; very capable; didn't like practical work went to family business
- One student with highest mark in a particular course; didn't pass a lab; stayed and tried 2nd time, still didn't pass; did not find out what happened in her circumstances
- One student found it too much work; broke up with boyfriend (due to amount of work)
- Some students think of leaving because they are not doing as well as they'd like; self-esteem can take hit if used to high marks and not getting them; decent marks can look like failure to some; remind them that someone with an average of C+ or B in academics can have great technical proficiency & amazing hands on skills; can have someone with A+s that can't hit vein if life depends on it; with so much up front in the program that is not hands on it's sometimes hard for them to see it

Faculty: Are there things that can be done to enable early leavers to continue in the program?

Enhance upgrading in preparation for theory:

- they need to know why (theory) they are doing things; if they don't understand why, it is not good to have them doing things in math chemistry and anatomy & physiology
- We send them for upgrading but we don't have upgrading for them
- idea of pre-term that students could take as many times as they want
- Look at study habits to see if issues there

Regarding workload:

- Work ethic is important; we see growth in students in this regard
- Workload is doable – students can't let it get ahead of them
- Have had students who fail and then return and graduate; work harder 2nd time; comment that material not hard, just volume
- Heaviest term is term 2; by term 3 students are used to the work; term 4 is more practical
- Need to make sure depth is correct – not teaching at veterinary level
- Seems to be general shift in how much effort students are willing to put into own education

Regarding supports:

- We have put more supports in place
- The supports have not helped with attrition but have made the successful students more successful
- Supports such as tutors and extra reviews are not always taken advantage of
- Classes get more cohesive as they get smaller

- We give a lot of attention to our students

General (10 minutes)

11. Lastly, is there anything that you would like to comment on that you were not asked but would like to say?

Early Leavers

- If given the opportunity to re-do the program, I would do it; RRC made that decision that I was not welcome to return
- I will pursue this study at another college if I can

Graduates:

- These comments were integrated into the appropriate sections above.

Current Students

- Checklist similar to practicum would be helpful for the 80 hours of volunteer experience
- Rooms should have windows and be warmer
- Radiology should be longer than it is; need more time to learn patient positioning

Faculty:

- A majority of comments have been integrated into sections above
- Good technologists perceive things, anticipate things, are not afraid to get dirty, separate personal issues from work, are confident and humble - it's not about marks
- Concern that there will be time to work on changes; in 1991 didn't take 1st year class to make time
- Don't want us to lose high standards – teach background knowledge
- The program graduates about 20 out of 30 students who enter the program; those that leave are not generally retainable; industry pressure is because they can't find someone to hire; pay is an issue
- Need to blow up program and start over; has evolved with add-ons and patchwork

Appendix D – Graduate Skills and Abilities and Gap Analysis Chart

SAMPLE

SAMPLE

Animal Health Technology

Graduate Skills and Abilities Chart
 Facilitated by Sandra Sukhan and Robert Cordingley
 Date: December 20 & 21, 2011

DACUM Skill Rating Scale:

- 1 Can perform some parts of this skill satisfactorily but requires assistance and/or supervision to perform the entire skill.
- 2 Can perform this skill satisfactorily but requires periodic assistance and/or supervision.
- 3 Can perform this skill competently without assistance or supervision.
- 4 Can perform this skill competently without assistance, with more than acceptable quality, and with initiative/adaptability to unique situations.

	General Area of Competency (GAC)		Skill rating
	DACUM Committee Skill deleted		Skill or Competency added by Faculty or DACUM wording changed
	Unshaded Box = Specific Skill within GAC		Gap or overlap between Faculty Expectations and Current Content in Courses

Accreditation standards/DACUM	Faculty Expectations (next 5 years)	Current Content in Courses
PERFORM OFFICE PROCEDURES A	PERFORM OFFICE PROCEDURES A	PERFORM OFFICE PROCEDURES A
Make appointments	Make appointments	Surgical Nursing Lab; Practice Management;
A1	A1	
1 2 3 4	1 2 3 4	1 2 3 4
Admit/discharge patients	Admit/discharge patients	Medical Nursing Lab II; Surgical Nursing Lab II; Husbandry I & II; Prep for Clinic Placement; Practicum I;
A2	A2	
1 2 3 4	1 2 3 4	1 2 3 4
Create and maintain client/patient records	Create and maintain client/patient records	Medical Nursing Lab II; Surgical Nursing Lab II; Husbandry I & II; Prep for Clinic Placement; Practicum I; CWLO A4
A3	A3	
1 2 3 4	1 2 3 4	1 2 3 4
Prepare appropriate forms and certificates	Prepare appropriate forms and certificates	Medical Nursing Lab II; Surgical Nursing Lab II; Prep for Clinic Placement;
A4	A4	
1 2 3 4	1 2 3 4	1 2 3 4

Perform veterinary medical record keeping procedures A5	Same as A3 & A4	
1 2 3 4	1 2 3 4	1 2 3 4
Utilize common practice management software programs A6	Utilize common practice management software programs A6	Practice Management;
1 2 3 4	1 2 3 4	1 2 3 4
Use veterinary on-line services A7	Use veterinary on-line services A7	Medical Nursing Theory I & II; Nutrition; Practice Management;
1 2 3 4	1 2 3 4	1 2 3 4
Perform basic filing (e.g. medical records, radiographs, lab reports) A8	Perform basic filing (e.g. medical records, radiographs, lab reports) A8	Could be added to Husbandry, Vaccination Labs, Surgical Nursing Labs;
1 2 3 4	1 2 3 4	1 2 3 4
Maintain logs (x-ray, surgery, anesthesia, radiology, laboratory, controlled substances) A9	Maintain logs (x-ray, surgery, anesthesia, radiology, laboratory, controlled substances) A9	Medical Nursing Practical II; Surgical Nursing/Anesthesia; Prep for Placement; Diagnostic Imaging; CWLO C2
1 2 3 4	1 2 3 4	1 2 3 4
Maintain equipment A10	Maintain equipment A10	Dentistry; Surgical Nursing Lab; Diagnostic Imaging; Hematology I & II; Chemistry II; A & P Lab I & II; Parasitology; Microbiology;
1 2 3 4	1 2 3 4	1 2 3 4
Manage inventory A11	Manage inventory A11	Practice Management;
1 2 3 4	1 2 3 4	1 2 3 4
COMMUNICATE B	COMMUNICATE B	COMMUNICATE B
Develop client education information B1	Develop client education information B1	Communication I & II; Medical Nursing Theory I; Parasitology; A & P II; CWLO B1
1 2 3 4	1 2 3 4	1 2 3 4
Provide client education information (i.e. oral, written) B2	Provide client education information (i.e. oral, written) B2	Medical Nursing Theory II; A & P I & II; Parasitology; Prep for Clinic Placement; Lab Animal Management; CWLO A1 & A2
1 2 3 4	1 2 3 4	1 2 3 4

Communicate at the level of the audience B3	Communicate at the level of the audience B3	Medical Nursing Theory II; A & PI & II; Parasitology; Prep for Clinic Placement; Medical Nursing Practical II;
1 2 3 4	1 2 3 4	1 2 3 4
Write a variety of documents (e.g. business letters, reports, client education handouts) B4	Write a variety of documents (e.g. business letters, reports, client education handouts) B4	Communications; Chemistry I; Lab Animal Management; Practice Management; Avian; Medical Theory I;
1 2 3 4	1 2 3 4	1 2 3 4
Demonstrate telephone etiquette B5	Demonstrate telephone etiquette B5	Practice Management; Surgical Nursing Lab;
1 2 3 4	1 2 3 4	1 2 3 4
Develop hospital nutrition protocols B6	Develop hospital nutrition protocols B6	Nutrition;
1 2 3 4	1 2 3 4	1 2 3 4
Communicate hospital nutrition protocols B7	Communicate hospital nutrition protocols B7	Nutrition;
1 2 3 4	1 2 3 4	1 2 3 4
PERFORM PHARMACY AND PHARMACOLOGY PROCEDURES C	PERFORM PHARMACY AND PHARMACOLOGY PROCEDURES C	PERFORM PHARMACY AND PHARMACOLOGY PROCEDURES C
Explain general types and groups of drugs, their uses and clinically relevant side effects C1	Explain general types and groups of drugs, their uses and clinically relevant side effects C1	Medical Nursing Theory II; Pharmacology; Surgical Nursing Lab II; Anesthesia; Surgical Nursing Theory;
1 2 3 4	1 2 3 4	1 2 3 4
Dispense medications from written and verbal orders C2	Dispense medications from written and verbal orders C2	Surgical Nursing Lab;
1 2 3 4	1 2 3 4	1 2 3 4
Use weights and measures (basic Math) C3	Use weights and measures (basic Math) C3	Math I & II; Anesthesia Theory; Chemistry I; Medical Nursing Lab I & II; Surgical Nursing Lab I & II; Husbandry I & II;
1 2 3 4	1 2 3 4	1 2 3 4
Calculate dosages C4	Calculate dosages C4	Math I & II; Anesthesia Theory; Medical Nursing Lab I & II; Surgical Nursing Lab I & II; CWLO C1
1 2 3 4	1 2 3 4	1 2 3 4

Perform inventory control procedures C5	Perform inventory control procedures C5	Practice Management; (put in Practicum; work with a tech to place/receive order)
1 2 3 4	1 2 3 4	1 2 3 4
Prepare medications C6	Prepare medications (mix multiple drugs) C6	Surgical Nursing Lab I & II;
1 2 3 4	1 2 3 4	1 2 3 4
Reconstitute vaccines C7	Reconstitute vaccines & other meds C7	Medical Nursing Practical II; Prep for Clinic Placement;
1 2 3 4	1 2 3 4	1 2 3 4
Differentiate between abnormal and normal responses to medication C8	Differentiate between abnormal and normal responses to medication C8	Surgical Nursing; Anesthesia; Pharmacology; CWLO D2
1 2 3 4	1 2 3 4	1 2 3 4
Administer drugs and vaccines using appropriate routes and methods C9	Administer drugs and vaccines using appropriate routes and methods C9	Prep for Clinic Placement; Medical Nursing Lab I & II; Surgical Nursing Lab I & II; Avians;
1 2 3 4	1 2 3 4	1 2 3 4
WORK WITHIN GOVERNMENT, LEGAL, MANUFACTURERS' & FACILITY HEALTH & SAFETY REG'S & GUIDELINES D	WORK WITHIN GOVERNMENT, LEGAL, MANUFACTURERS' & FACILITY HEALTH & SAFETY REG'S & GUIDELINES D	WORK WITHIN GOVERNMENT, LEGAL, MANUFACTURERS' & FACILITY HEALTH & SAFETY REG'S & GUIDELINES D
Discuss the legality of the veterinary-client-patient relationship D1	Discuss the legality of the veterinary-client-patient relationship D1	Pharmacology; Medical Nursing Practical I; Anesthesia;
1 2 3 4	1 2 3 4	1 2 3 4
Follow patient and personal/personnel safety protocols D2	Follow patient and personal/personnel safety protocols D2	Pharmacology; Medical Nursing Practical I & II; Anesthesia; Surgical Nursing Lab I & II; Husbandry I & II; A & P Lab I & II; Prep for Clinical Placement; Hematology Lab I & II; Parasitology; Lab Animal; Microbiology; Diagnostic Imaging; Dentistry; CWLO E3
1 2 3 4	1 2 3 4	1 2 3 4
Work within regulations governing over-the-counter and prescription drugs and controlled substances D3	Work within regulations governing over-the-counter and prescription drugs and controlled substances D3	Pharmacology; Surgical Nursing Labs I & II; Anesthesia;
1 2 3 4	1 2 3 4	1 2 3 4

Observe legal boundaries of veterinary health care team members D4	Observe legal boundaries of veterinary health care team members D4	Medical Nursing Theory I; Practice Management;
1 2 3 4	1 2 3 4	1 2 3 4
Comply with provincial, federal, and local animal welfare regulations D5	Comply with provincial, federal, and local animal welfare regulations D5	Medical Nursing Theory I; Surgical Nursing Lab I & II; Lab Animals;
1 2 3 4	1 2 3 4	1 2 3 4
Store, handle and dispose of biologics and therapeutic agents, pesticides and hazardous wastes D6	Store, handle and dispose of biologics and therapeutic agents, pesticides and hazardous wastes D6	Surgical Nursing I & II; Hematology I & II; Husbandry I & II; Pharmacology; Medical Nursing Practical I & II; A & P II; Microbiology;
1 2 3 4	1 2 3 4	1 2 3 4
Manage controlled substances D7	Manage controlled substances D7	Surgical Nursing Lab I & II; Pharmacology;
1 2 3 4	1 2 3 4	1 2 3 4
Perform sanitation procedures for animal holding and housing areas D8	Perform sanitation procedures for animal holding and housing areas D8	Husbandry; Surgical nursing Lab I & II; Prep for Clinic Placement; Medical Nursing Lab I & II; Lab Animals;
1 2 3 4	1 2 3 4	1 2 3 4
PERFORM EXAMINATION ROOM PROCEDURES E	PERFORM EXAMINATION ROOM PROCEDURES E	PERFORM EXAMINATION ROOM PROCEDURES E
Identify common domestic animal species and breeds E1	Identify common domestic animal species, breeds & colours E1	Medical Nursing Theory I; Medical Nursing Practical I & II;
1 2 3 4	1 2 3 4	1 2 3 4
Interpret normal values of temp., pulse and respiration for various animals (e.g. dogs, cats, horses, cows) E2	Interpret normal values of temp., pulse and respiration for various animals (e.g. dogs, cats, horses, cows) E2	Medical Nursing Practical I & II; Surgical Nursing Lab I & II; Anesthesia;
1 2 3 4	1 2 3 4	1 2 3 4
Assess patient E3	Assess patient (e.g. pain, temperament, psychological) E3	Husbandry I & II; Surgical Nursing Practical I & II; Medical Nursing Practical I & II; CWLO D3
1 2 3 4	1 2 3 4	1 2 3 4

Restrain small animals for procedures E4 1 2 3 4	Restrain small animals for procedures E4 1 2 3 4	Husbandry I & II; Surgical Nursing Practical I & II; Medical Nursing Practical I & II; Lab Animal; Radiology; Avians; CWLO D9 1 2 3 4
Restrain large animals for procedures (e.g. cattle, swine, sheep, horse) E5 1 2 3 4	Restrain large animals for procedures (e.g. cattle, swine, sheep, horse) E5 1 2 3 4	Medical Nursing Practical I & II; 1 2 3 4
PERFORM SURGICAL NURSING AND ANAESTHESIA F	PERFORM SURGICAL NURSING AND ANAESTHESIA F	PERFORM SURGICAL NURSING AND ANAESTHESIA F
Perform surgical preparations F1 1 2 3 4	Perform surgical preparations F1 1 2 3 4	Surgical Nursing Labs I & II; Prep for Clinical Placement; 1 2 3 4
Perform as a surgical assistant or circulating nurse F2 1 2 3 4	Perform as a surgical assistant or circulating nurse F2 1 2 3 4	Surgical Nursing Labs I & II; 1 2 3 4
Perform post-surgical procedures F3 1 2 3 4	Perform post-surgical procedures (e.g. monitor & manage vital signs, pain, clean-up) F3 1 2 3 4	Surgical Nursing Labs I & II; 1 2 3 4
Assist with anesthesia under supervision F4 1 2 3 4	Assist with anesthesia under supervision F4 1 2 3 4	Surgical Nursing Labs I & II; Practicum I; 1 2 3 4
PROVIDE NURSING CARE FOR LARGE AND SMALL ANIMALS G	PROVIDE NURSING CARE FOR LARGE AND SMALL ANIMALS G	PROVIDE NURSING CARE FOR LARGE AND SMALL ANIMALS G
Provide care for healthy hospitalized patients G1 1 2 3 4	Provide care for healthy hospitalized patients G1 1 2 3 4	Surgical Nursing Labs I & II; Practicum I & II; Husbandry I & II; 1 2 3 4
Provide care for sick hospitalized patients G2 1 2 3 4	Provide care for sick hospitalized patients G2 1 2 3 4	Practicum I & II; Surgical Nursing Lab II 1 2 3 4

Perform permanent identification methods (e.g. microchips & tattoos) G3	Perform permanent identification methods (e.g. microchips & tattoos) G3	Surgical Nursing Labs I & II;
1 2 3 4	1 2 3 4	1 2 3 4
Describe appropriate diets based on key nutritional factors in disease conditions G4	Describe appropriate diets based on key nutritional factors in disease conditions G4	Medical Nursing Theory II; Nutrition;
1 2 3 4	1 2 3 4	1 2 3 4
Maintain equipment used in animal care and nursing G5	Maintain standard equipment used in animal care and nursing G5	Medical Nursing Lab I & II; Surgical Nursing Lab I & II; (query other programs re: standard equipment)
1 2 3 4	1 2 3 4	1 2 3 4
Perform venipuncture for treatment or blood sampling G6	Perform venipuncture for treatment or blood sampling G6	Practicum I & II; Medical Nursing Lab I & II; Surgical Nursing Lab I & II; Prep for Clinic Placement; Avians; Lab Animals; (more models, time, space, staff \$\$\$ required)
1 2 3 4	1 2 3 4	1 2 3 4
Administer parenteral medications G7	Administer parenteral medications (subQ, IM, IP) G7	Lab Animal; Medical Nursing Practical I & II; Surgical Nursing Lab II; Prep for Clinical Placement; Practicum I; CWLO K4
1 2 3 4	1 2 3 4	1 2 3 4
Administer fluid therapy G8	Administer IV fluid therapy (place, maintain and monitor catheter placement; determine and maintain flow rate; monitor patient hydration status) G8	Math II; Surgical Nursing Lab I & II; Prep for Clinical Placement; Medical Nursing Theory II; (more practice needed)
1 2 3 4	1 2 3 4	1 2 3 4
Administer SubQ fluid therapy G9	Administer SubQ fluid therapy G9	Medical Nursing Practical II; (more practice needed)
1 2 3 4	1 2 3 4	1 2 3 4
Provide Husbandry G10	Provide Husbandry (e.g. trim nails, clipping, bathing, grooming) G10	Husbandry I & II; Medical Nursing Practical I & II; Surgical Nursing Lab II; Practicum I & II; Avians;
1 2 3 4	1 2 3 4	1 2 3 4
Administer therapeutic care G11	Administer therapeutic care G11	Husbandry I & II; Medical Nursing Practical I & II; Surgical Nursing Lab II; Practicum I & II; Avians; Lab Animals; Reproduction;
1 2 3 4	1 2 3 4	1 2 3 4

Collect samples	Collect samples	Surgical Nursing Lab II; Reproduction; Parasitology; Medical Nursing Lab II; (add group cath labs; cysto)
G12	G12	
1 2 3 4	1 2 3 4	1 2 3 4
PERFORM LABORATORY ANIMAL PROCEDURES H	PERFORM LABORATORY ANIMAL PROCEDURES H	PERFORM LABORATORY ANIMAL PROCEDURES H
Explain basic principles of animal research protocols	Implement basic principles of animal research protocols	Lab Animals;
H1	H1	
1 2 3 4	1 2 3 4	1 2 3 4
Provide Care for Rodents and Rabbits, Ferrets & Avian	Provide Care for Rodents, Rabbits, Ferrets & Avian	Avians; Lab Animals
H2	H2	
1 2 3 4	1 2 3 4	1 2 3 4
Provide Care for Exotic & Fish Species (NE)	Provide Care for Exotic (e.g. reptiles, amphibians) (NE)	Avians;
H3	H3	
1 2 3 4	1 2 3 4	1 2 3 4
PERFORM RADIOLOGY AND DIAGNOSTIC IMAGING I	PERFORM RADIOLOGY AND DIAGNOSTIC IMAGING I	PERFORM RADIOLOGY AND DIAGNOSTIC IMAGING I
Implement & follow recommended radiation safety measures	Implement & follow recommended radiation safety measures	Diagnostic Imaging; Dentistry; CWLO I1
I1	I1	
1 2 3 4	1 2 3 4	1 2 3 4
Prepare and use radiographic technique charts	Prepare and use radiographic technique charts	Diagnostic Imaging; Dentistry; (add prepare technique charts)
I2	I2	
1 2 3 4	1 2 3 4	1 2 3 4
Take diagnostic radiographs using stationary/portable radiographic equipt. for appropriate anatomical studies	Take diagnostic radiographs using stationary/portable radiographic equipt. for appropriate anatomical studies	Diagnostic Imaging; Dentistry; (add portable digital machine; add horses, avians)
I3	I3	
1 2 3 4	1 2 3 4	1 2 3 4

Process diagnostic radiographs I4 1 2 3 4	Process diagnostic radiographs I4 1 2 3 4	Diagnostic Imaging; Dentistry; 1 2 3 4
Maintain radiographic equipment I5 1 2 3 4	Maintain radiographic equipment I5 1 2 3 4	Diagnostic Imaging; Dentistry; 1 2 3 4
Perform various contrast media studies (e.g. GI series, pneumocystogram) I6 1 2 3 4	Perform various contrast media studies (e.g. GI series, pneumocystogram) I6 1 2 3 4	Diagnostic Imaging; (teach GI series as a group) 1 2 3 4
Maintain ultrasound equipment (NE) I7 1 2 3 4	Maintain ultrasound equipment (NE) I7 1 2 3 4	Diagnostic Imaging; 1 2 3 4
Maintain endoscopic equipment (NE) I8 1 2 3 4	 1 2 3 4	 1 2 3 4
PERFORM LABORATORY PROCEDURES J	PERFORM LABORATORY PROCEDURES J	PERFORM LABORATORY PROCEDURES J
Prepare laboratory samples for shipment J1 1 2 3 4	Prepare laboratory samples for shipment J1 1 2 3 4	A & P Lab II; Avian; (check Microbiology) 1 2 3 4
Maintain laboratory equipment J2 1 2 3 4	Maintain laboratory equipment J2 1 2 3 4	A & P Lab II; Parasitology; Surgical Nursing Lab I & II; Chemistry II; Hematology Lab I & II; 1 2 3 4
Perform quality control procedures J3 1 2 3 4	Perform quality control procedures J3 1 2 3 4	Chemistry II; Surgical Nursing Lab I; 1 2 3 4

Explain basic principles of laboratory safety J4	Explain basic principles of laboratory safety J4	Chemistry I; (add more safety rules)
1 2 3 4	1 2 3 4	1 2 3 4
Prepare and store samples J5	Prepare and store samples J5	Microbiology; A & P Lab II; Chemistry II; Surgical Nursing Lab I; (add Specific Risk Materials; add storage information)
1 2 3 4	1 2 3 4	1 2 3 4
Ship samples according to laboratory protocols J6	Same as J1	
1 2 3 4	1 2 3 4	1 2 3 4
Conduct urinalysis evaluation J7	Conduct urinalysis evaluation J7	Hematology Lab I & II; (more practice)
1 2 3 4	1 2 3 4	1 2 3 4
Conduct hematologic evaluations J8	Conduct hematologic evaluations J8	Hematology Lab I & II; Surgical Nursing Lab II;
1 2 3 4	1 2 3 4	1 2 3 4
Perform parasitologic procedures J9	Perform parasitologic procedures J9	Parasitology; Clinic Placement I; Medical Nursing Practical II; Prep for Clinic Placement; Surgical Nursing Lab II; (add content in Yr. 2)
1 2 3 4	1 2 3 4	1 2 3 4
Perform microbiologic procedures J10	Perform microbiologic procedures J10	Medical Nursing Lab II; Microbiology;
1 2 3 4	1 2 3 4	1 2 3 4
Perform cytologic procedures J11	Perform cytologic procedures (rated as Non-Essential by CVMA) J11	Hematology Lab I; Reproduction;
1 2 3 4	1 2 3 4	1 2 3 4
Perform necropsy procedures J12	Perform necropsy procedures J12	Avians; I A & P Lab II; (add explain how to handle rabies suspect)
1 2 3 4	1 2 3 4	1 2 3 4

DEMONSTRATE PERSONAL COMPETENCIES K	DEMONSTRATE PERSONAL COMPETENCIES K	DEMONSTRATE PERSONAL COMPETENCIES K
Demonstrate interpersonal skills K1 1 2 3 4	Demonstrate interpersonal skills K1 1 2 3 4	All courses; CWLO E3 & J9 1 2 3 4
Utilize public relation skills K2 1 2 3 4	Utilize public relation skills K2 1 2 3 4	Practice Management; Communications; Surgical Nursing Lab II; Husbandry I & II; Medical Nursing Lab II; Parasitology; Lab 1 2 3 4
Maintain personal hygiene K3 1 2 3 4	Maintain personal hygiene K3 1 2 3 4	All courses 1 2 3 4
Manage time K4 1 2 3 4	Manage time K4 1 2 3 4	All courses; CWLO F2 & K1 1 2 3 4
Prioritize tasks K5 1 2 3 4	Prioritize tasks K5 1 2 3 4	Surgical Nursing Lab II; Husbandry; Hematology; Parasitology; Radiology; Practicum; CWLO G2 1 2 3 4
Demonstrate empathy and compassion K6 1 2 3 4	Demonstrate empathy and compassion K6 1 2 3 4	Practice Management; Emergency Medicine & Critical Care; Surgical Nursing; Hematology; 1 2 3 4
Demonstrate a commitment to excellence K7 1 2 3 4	Demonstrate a commitment to excellence K7 1 2 3 4	All courses; CWLO E1 & K3 1 2 3 4
Demonstrate critical thinking skills K8 1 2 3 4	Demonstrate critical thinking skills K8 1 2 3 4	Chemistry II; Nutrition; Radiology; Dentistry; Anesthesia; Surgical Nursing Lab II; CWLO D6 & D7 1 2 3 4

Demonstrate initiative	Demonstrate initiative	Practicum; Genetics; Radiology; Medical Nursing Practical I; Surgical Nursing; CWLO E4 & G3
K9	K9	
1 2 3 4	1 2 3 4	1 2 3 4
Demonstrate resourcefulness	Demonstrate resourcefulness	Nutrition; CWLO D5
K10	K10	
1 2 3 4	1 2 3 4	1 2 3 4
Solve problems	Solve problems	Nutrition; Surgical Nursing; Anesthesia; CWLO D1, D4, D8, G3, J8, K2 & K6
K11	K11	
1 2 3 4	1 2 3 4	1 2 3 4
Anticipate needs of vets	Anticipate needs of vets	Medical Nursing Practical II; Surgical Nursing Lab II; Practicum;
K12	K12	
1 2 3 4	1 2 3 4	1 2 3 4
Demonstrate integrity	Demonstrate integrity	All courses; CWLO E2 & F5
K13	K13	
1 2 3 4	1 2 3 4	1 2 3 4
Adapt to change	Adapt to change	All courses; CWLO G4, G5, G6 & K5
K14	K14	
1 2 3 4	1 2 3 4	1 2 3 4
Demonstrate work/life balance	Demonstrate work/life balance	Add guest speakers; non-assigned afternoons CWLO E4 & F1
K15	K15	
1 2 3 4	1 2 3 4	1 2 3 4
DEMONSTRATE PROFESSIONAL COMPETENCIES L	DEMONSTRATE PROFESSIONAL COMPETENCIES L	DEMONSTRATE PROFESSIONAL COMPETENCIES L
Apply crisis intervention/grief management skills with clients	Apply crisis intervention/grief management skills with clients	Practice Management; Anesthesia; CWLO J8
L1	L1	
1 2 3 4	1 2 3 4	1 2 3 4

Interact professionally with clients and fellow staff members L2	Interact professionally with clients and fellow staff members L2	All courses (with additional emphasis in Practice Management, Medical Nursing Theory I; Surgical Nursing Lab II; (add content to any course that requires/simulates client interaction) CWLO J5
1 2 3 4	1 2 3 4	1 2 3 4
Demonstrate a commitment to high quality patient care L3	Demonstrate a commitment to high quality patient care L3	All courses
1 2 3 4	1 2 3 4	1 2 3 4
Respect and protect the confidentiality of client and patient information L4	Respect and protect the confidentiality of client and patient information L4	Medical Nursing; Surgical Nursing Lab II; Practicums; Practice Management; (add to Husbandry and other animal courses)
1 2 3 4	1 2 3 4	1 2 3 4
Work as part of a veterinary health care team L5	Work as part of a veterinary health care team L5	Surgical Nursing Lab II; Husbandry I & II; Medical Nursing Practical I & II; Prep for Clinic Placement; Practicums; CWLO F4, G1, J1, J2, J6,
1 2 3 4	1 2 3 4	1 2 3 4
Maintain basic cleanliness and orderliness of a veterinary facility (e.g. hospital, clinic, practice, laboratory) L6	Maintain basic cleanliness and orderliness of a veterinary facility (e.g. hospital, clinic, practice, laboratory) L6	Surgical Nursing Lab II; Husbandry I & II; Medical Nursing Practical I & II; Prep for Clinic Placement; Practicums; all courses with labs
1 2 3 4	1 2 3 4	1 2 3 4
Respond appropriately to veterinary medical emergencies L7	Respond appropriately to veterinary medical emergencies L7	Surgical Nursing Lab I & II; Emergency Medicine and Critical Care; (Build online simulations)
1 2 3 4	1 2 3 4	1 2 3 4
Provide humane handling and care of animals L8	Provide humane handling and care of animals L8	Husbandry I & II; Medical Nursing Lab I & II; Surgical Nursing Lab I & II; Emergency Medicine and Critical Care; Practicums; Prep for Clinic Placement; Lab Animals;
1 2 3 4	1 2 3 4	1 2 3 4
Maintain professional certification L9	Discuss professional certification L9	Practice Management; Medical Nursing Theory I;
1 2 3 4	1 2 3 4	1 2 3 4

Respect diversity	Respect diversity	Medical Nursing Theory I; Practicums; Practice Management; Surgical Nursing Lab II; CWLO A3, J3 & J4
L10	L10	
1 2 3 4	1 2 3 4	1 2 3 4
Demonstrate a commitment to lifelong learning	Discuss a commitment to lifelong learning	All courses; CWLO H1, H2, H3, H4 & H5
L11	L11	
1 2 3 4	1 2 3 4	1 2 3 4

SAMPLE

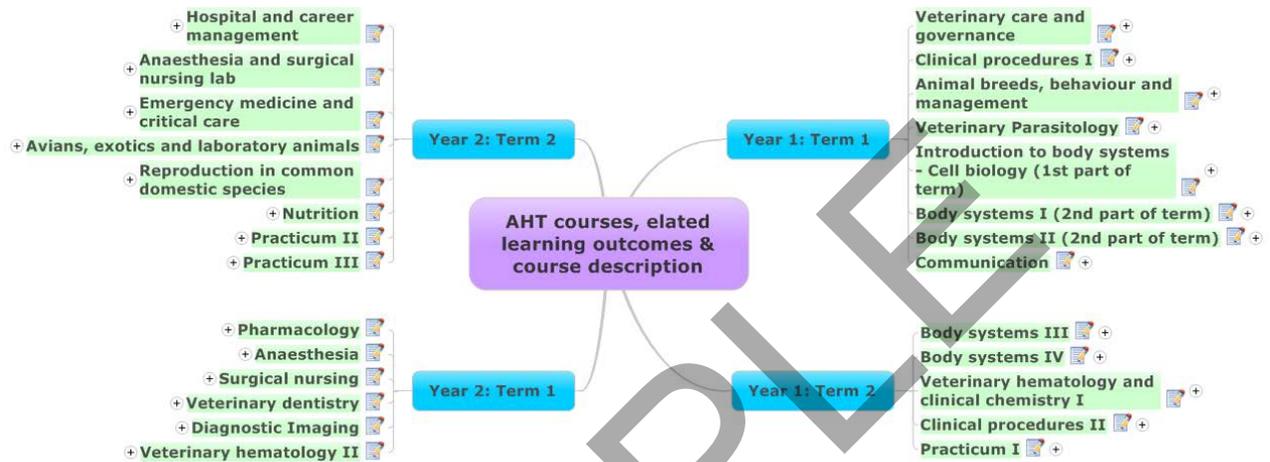
Appendix E – Animal Health Technology Graduate Profile

The Graduate:

- Uses a variety of technologies and vet specific software to communicate, record and file information, and create documents
- Demonstrates effective verbal, non-verbal, written, and interpersonal communication skills appropriate to the veterinary workplace
- Safely and effectively administers prescribed drugs to patients
- Accurately dispenses and explains prescribed drugs to clients
- Complies with workplace safety, privacy, and health regulations by adhering to government legislation and to the policies of professional organizations
- Performs patient assessment to obtain patient data that will allow accurate patient evaluation with minimum stress and maximum safety
- Safely and effectively manages patients in all phases of anesthetic procedures
- Integrates all aspects of patient management for common surgical procedures in common domestic species
- Provides nursing care for hospitalized patients (common domestic species) including administering therapeutic care through appropriate nutrition, and husbandry
- Performs laboratory animal procedures as outlined by the Canadian Council on Animal Care
- Takes x-rays and provides support for other diagnostic imaging procedures using appropriate techniques and following recommended safety measures
- Performs laboratory procedures by obtaining and preparing patient samples and conducting appropriate analysis with a high level of quality control
- Demonstrates personal integrity, reliability, ethics, accountability, and resourcefulness in all roles and responsibilities
- Demonstrates professionalism by valuing diversity, respecting workplace culture, and committing to lifelong learning
- Provides dental care for dogs and cats

SAMPLE

Appendix F – Course Learning Outcomes, Sequencing and Descriptions



Year 1: Term 1

Course title: Veterinary Care and Governance

Course description: Students will restrain and provide care for veterinary patients within the legal boundaries of veterinary medicine while following appropriate safety protocols.

Learning outcomes:

- Observes the legal boundaries of veterinary health care team members (D4)
- Discusses the legality of the veterinary-client-patient relationship (D1)
- Complies with provincial, federal and local animal welfare regulations (D5)
i.e. animal care act, CCAC
- Respects and protects the confidentiality of client and patient information (L3)
- Follows patient and personal/personnel safety protocols (D2, J4)
- Restrains small and large common domestic animals and laboratory and exotic animals (E4, E5)
- Uses and maintains standard equipment used in animal care and nursing (G5)
- Provides care for healthy hospitalized patients (G1, G2, G10, G11, L3, L7, L8)

Course title: Clinical Procedures I

Course description: Students will perform a variety of clinical procedures including bandaging, patient identification, administering medication, and sanitation following WHMIS regulations.

Learning outcomes:

- Prepares medications from verbal and written orders (C2, C3, C4, C6, C7, C9)
- Administers medication safely and effectively (G7, G11)
- Scans for and reads an implanted microchip (New LO)
- Performs identification with tattoo, ear tags and microchip (G3)
- Works within WHMIS regulations for storing, handling and disposing of biologics and therapeutic agents, pesticides and hazardous waste (D6)
- Performs sanitation procedures for animal holding and housing areas (D8, L6)
- Performs sanitation procedures (biosecurity and bio containment) for animal holding and housing areas (D8, L6)

- Performs bandaging techniques on various species (new LO)

Course title: *Animal Breeds, Behaviour and Management*

Course description: Students will identify the common breeds of various domestic species including their behaviour and management.

Learning outcomes:

- Identifies common domestic animal species, breeds and colours (E1)
- Assesses patients (Behaviour) (E2, E3)
- Discusses the characteristics and purposes of various breeds (new LO)
- Compares animal production systems (new LO)

Course title: *Veterinary Parasitology*

Course description: Students will learn the fundamental biology of different groups of parasites and the general principles of their identification, control, collection, and processing.

Learning outcomes:

- Explains the life cycles of parasites of common domestic species (new LO)
- Explains the taxonomic classifications of parasites (new LO)
- Explains pathology caused by parasites (new LO)
- Performs parasitological procedures (J9)

Course title: *Introduction to Body Systems - Cell Biology (1st part of term)*

Course description: Students will discuss the normal and abnormal anatomy and physiology of the integumentary and digestive systems. Students will also learn nursing care associated with these systems.

Learning outcomes:

- Explains cell and tissue structure and function (New LO)
- Performs microbiologic procedures (J10)

Course title: *Body Systems I (2nd part of term)*

Course description: Students will discuss the normal and abnormal anatomy and physiology of the integumentary and digestive system. Students will also learn nursing care associated with these systems.

Learning outcomes:

- Explains body systems and their relevance to good nursing practices (C1, C8)
- Explains normal and abnormal integumentary system (new LO)
- Explains the normal and abnormal functions of the digestive system (new LO)

Course title: *Body Systems II (2nd part of term)*

Course description: Students will discuss the normal and abnormal anatomy and physiology of the musculoskeletal system. Students will also learn nursing care associated with this system.

Learning outcomes:

- Explains normal and abnormal muscular system (new LO)
- Explains normal and abnormal skeletal system (new LO)

Course title: *Communication*

Course description: Students will develop the written and oral communication skills needed by an Animal Health Technologist to communicate effectively with supervisors, co-workers, and clients.

Learning outcomes:

- Uses veterinary online services to develop and deliver client education information (A7, B1, B2)
- Selects the level of technical language appropriate to the audience (B3, K1, K2)
- Writes a variety of documents including business letters and reports (B4)
- Schedules appointments, creates and manages client/patient records, documents and logs manually using common veterinary software (A1, A3, A4, A6, A8, A9, B5)

- Interacts professionally with clients and fellow staff members by respecting others and working as part of a veterinary health care team (L2, L5, L10, K3, K12)

Year 1: Term 2

Course title: Body Systems III

Course description: Students will discuss the normal and abnormal anatomy and physiology of the urinary, endocrine and nervous systems. Students will also learn nursing care associated with these systems.

Learning outcomes:

- Explains normal and abnormal urinary system (new LO)
- Explains normal and abnormal endocrine system (new LO)
- Explains normal and abnormal nervous system (new LO)

Course title: Body Systems IV

Course description: Students will discuss the normal and abnormal anatomy and physiology of the cardiovascular and respiratory systems and the special senses. Students will also learn nursing care associated with these systems.

Learning outcomes:

- Explains normal and abnormal special senses (new LO)
- Explains normal and abnormal cardiovascular system (new LO)
- Explains normal and abnormal respiratory system (new LO)

Course title: Veterinary Hematology and Clinical Chemistry I

Course description: Students will discuss the genesis and function of the various blood cell types and become proficient in their recognition and evaluation. Students will practice cytological smear preparation and urinalysis. In addition, students will also discuss clinical chemistry in relation to body systems.

Learning outcomes:

- Explains the genesis of blood cells in common domestic species (new LO)
- Identifies the blood cells in common domestic species (new LO)
- Discusses clinical chemistry in relation to body systems (new LO)
- Conducts hematologic evaluations (J8)
- Conducts urinalysis evaluation (J7)
- Performs cytologic procedures (J11)

Course title: *Clinical Procedures II*

Course description: Students will perform a variety of clinical and laboratory procedures including bathing, physical exams, venipuncture, administering vaccinations and sample handling.

Learning outcomes:

- Assesses patients (TPR)(E2, E3)
- Performs venipuncture for blood sampling (G6, G12)
- Collects patient samples for diagnostic work (G12)
- Maintains laboratory equipment including performing quality control procedures (J2, J3)
- Prepares, stores and ships samples using appropriate storage and shipment techniques and procedures (J1, J5)
- Performs basic grooming procedures on dogs i.e. nail trims, bathing and anal glands (new LO)

Course title: *Practicum I*

Course description: Students will spend three weeks in a veterinary hospital where they will practice clinical skills learned in the first year of the program.

Learning outcomes:

- Provides care for sick hospitalized patients (G1, G2, G10, G11, L3, L7, L8)
- Practices AHT skills (new LO)

Year 2: Term 1

Course title: Pharmacology

Course description: Students will develop awareness of the properties, delivery methods and regulations pertaining to common pharmacological agents used in veterinary medicine.

Learning outcomes:

- Explains general types and groups of drugs their uses and clinically relevant effects and side effects (C1, C8)
- Works within regulations governing over-the-counter and prescription drugs (D3)
- Manages controlled substances (D7)
- Administers and monitors fluid therapy (G8, G9, G11)

Course title: Anaesthesia

Course description: Students will assemble and maintain anaesthetic equipment, plan anaesthetic protocols and to monitor anesthetized patients.

Learning outcomes:

- Assembles and maintains anaesthetic equipment (G5)
- Monitors medication (G7, G11)
- Discusses anaesthetic agents/drugs to effectively monitor patients i.e. include CPR (new LO)
- Plans anaesthetic protocols i.e. anaesthetic emergencies (new LO)
- Performs endotracheal intubation (new LO)
- Transfers and set-up monitoring equipment i.e. blood pressure, ECG, capnograph (new LO)

Course title: Surgical Nursing

Course description: Students will apply the principles of aseptic techniques. Students will also prepare the patient, surgical suite, and surgical packs.

Learning outcomes:

- Assesses patients for pain based on species (E2, E3)

- Identifies and explains the uses of surgical instruments and equipment i.e. iv pumps, autoclaves, sterilization equipment (new LO)
- Creates and maintains surgical records (new LO)
- Reviews analgesic drug protocols and their effects on the body (new LO)
- Practices aseptic techniques in all aspects of surgical nursing (new LO)
- Prepares sterile packs for surgery (new LO)

Course title: *Veterinary Dentistry*

Course description: Students perform canine and feline prophylactic dental cleaning. Students will also assist the veterinary dental surgeon in common and selected species.

Learning outcomes:

- Performs dental prophylaxis (new LO)
- Maintains dental records (new LO)
- Maintains manual and mechanical dental equipment (new LO)
- Discusses appropriate dental home care with clients (new LO)

Course title: *Diagnostic Imaging*

Course Description: Students will learn the basics of x-ray equipment, radiation physics, image recording, radiation protection, and radiobiology to enable them to aid the veterinarian in diagnosis and treatment. In addition, students will discuss the theory of ultrasound imaging, and to the techniques involved with assisting a veterinarian to perform diagnostic ultrasound on a patient.

Learning outcomes:

- Works within recommended radiation safety measures (I1)
- Prepares and uses radiographic technique charts (I2)
- Takes and processes diagnostic radiographs for appropriate anatomical studies (I3, I4, I6)
- Maintains radiographic and ultrasound equipment (I5, I7, G5)

Course title: *Veterinary Hematology II*

Course description: This course is a continuation of Hematology 1, with an emphasis on identification of pathological cells. Vaginal, otic, and bone marrow cytology will also be studied.

Learning outcomes:

- Identifies the abnormal blood cells in common domestic species (new LO)
- Conducts abnormal hematologic evaluations (J8)
- Conducts abnormal urinalysis evaluation (J7)
- Performs vaginal, otic and bone marrow cytologic evaluations (J11)

Year 2: Term 2

Course title: *Hospital and Career Management*

Course description: Students will discuss various aspects of a veterinary practice including inventory control, crisis intervention, grief management, and personnel and client relations.

Learning outcomes:

- Discusses clinic inventory management (A11, C5)
- Discusses client issues including crisis intervention and grief management (L1, K6)
- Discusses the importance of a commitment to lifelong learning by maintaining professional certification (new LO)
- Discusses human resource issues i.e. interpersonal communication among staff/supervisor, job interviews, client education materials, workers' rights, wages & benefits (new LO)

Course title: *Anaesthesia and Surgical Nursing Lab*

Course description: Students will practice surgical nursing and anaesthesia skills under veterinary supervision on live animals in a clinical setting.

Learning outcomes:

- Prepares patients for surgical procedures (F1)

- Assists veterinary surgeon during surgery (F2)
- Performs permanent identification with a microchip and tattoo (G3)
- Administers and monitors anaesthesia under direct supervision by a veterinarian F4
- Performs duties of a circulating surgical nurse pre, during and post-surgery F1, F2, F3)

Course title: *Emergency Medicine and Critical Care*

Course description: Students will discuss the clinical signs and treatment of emergencies related to various body systems.

Learning outcomes:

- Discusses emergencies related to various body systems
- Recognizes and discusses the treatment of shock

Course title: *Avians, Exotics and Laboratory Animals*

Course description: Students will learn basic husbandry, common nursing care procedures and diseases of rabbits, rodents, ferrets, birds and reptiles. Students will follow regulations and protocols involved in working with laboratory and exotic species.

Learning outcomes:

- Provides safe and effective care for exotic animals such as ferrets, birds, and reptiles (H2, H3)
- Performs necropsy procedures (J12)
- Implements research protocols (H1)
- Provides safe and effective care for common animals used in laboratory research (H2)

Course title: *Reproduction in Common Domestic Species*

Course description: Students will study the normal anatomy and physiology common domestic species including normal and abnormal reproductive behaviour and gestation events. Students will also study breeding patterns and management.

Learning outcomes:

- Discusses normal and abnormal male anatomy (new LO)
- Discusses normal and abnormal female anatomy (new LO)
- Discusses pregnancy diagnosis (new LO)
- Discusses the management of pregnancy and dystocia (new LO)
- Discusses breeding patterns and management i.e. pedigree analysis (new LO)

Course title: Nutrition

Course Description: Students will discuss the normal role of nutrients in the body and the diseases that are caused by imbalances of these nutrients. Diets fed to normal animals at various life stages will also be addressed, with an emphasis on dogs and cats with and without disease problems.

Learning outcomes:

- Develops and communicates hospital nutrition protocols (B6, B7)
- Feeds appropriate diets based on key nutritional factors in relation to body systems (G4, G11)

Course title: Practicum II

Course description: Students will spend two weeks in a veterinary hospital where they will practice clinical skills with an emphasis on anaesthesia and surgical nursing.

Learning outcomes:

- Provides care for sick hospitalized patients (G1, G2, G10, G11, L3, L7, L8)
- Practices AHT skills (new LO)

Course title: Practicum III

Course description: Students will spend three weeks in a veterinary hospital where they will practice all clinical skills.

Learning outcomes:

- Provides care for sick hospitalized patients (G1, G2, G10, G11, L3, L7, L8)
- Demonstrates a commitment to excellence through personal integrity (K7, K13)
- Demonstrates work/life balance by managing time and prioritizing tasks (K4, K5, K15)
- Demonstrates initiative, resourcefulness and critical thinking skills in order to solve problems (K9, K10, K11, K8, K14)
- Practices AHT skills (new LO)

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Appendix G – 5 Year Program Renewal Plan in Gantt format

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ID	Task Name	Start	Finish	2011		2012		2013		2014		2015		2016		2017
				H1	H2	H1										
1	Facilities: Advocate for additional space	Tue 5/1/12	Tue 2/28/17													
3	Advocate for additional lab for 1st year model practice	Tue 5/1/12	Fri 12/21/12													
6	Advocate for fenced in dog run area on campus	Tue 5/1/12	Fri 12/28/12													
7	Investigate use of 3rd floor x-ray room	Tue 5/1/12	Fri 12/28/12													
10	Investigate relocating blood bank to external facility	Tue 5/1/12	Fri 12/28/12													
11	Professional Development: Offer professional development opportunities for staff	Mon 9/3/12	Fri 6/30/17													
12	Provide opportunities for attending conferences/seminars (eg. AVTE, Western Educators)	Mon 9/3/12	Fri 6/30/17													
13	Seek PD money for specialty areas of training	Mon 9/3/12	Fri 6/30/17													
15	Provide opportunities for PD related to teaching and learning e.g. CAE	Mon 9/3/12	Fri 6/30/17													
23	Additional revenue sources: Explore sources of cost-recovery revenue generation	Mon 5/21/12	Fri 6/30/17													
28	Sell naming rights to rooms (e.g. vets, clinics, suppliers)	Mon 5/21/12	Fri 12/28/12													
29	Pre-testing and Upgrading: Screen incoming students so all 1st year students come in with minimum skills (e.g. academic and physical ability)	Tue 5/1/12	Fri 6/30/17													
30	Improve website by adding a more comprehensive self-test portion	Tue 5/1/12	Fri 8/29/14													
31	Provide student advising prior to entry into program	Tue 5/1/12	Fri 6/30/17													
32	Explore a pre-entry course that covers basic math and sciences	Tue 5/1/12	Mon 6/30/14													
33	Suggest assessment to be completed soon after application is submitted	Tue 5/1/12	Fri 8/29/14													
34	Use data from HOEA entry tests to provide more relevant student advising	Tue 5/1/12	Fri 6/30/17													
36	Committees: Review mandate of various committees	Tue 5/1/12	Fri 6/28/13													
37	Review terms and mandate of Advisory Committee (including ratio of vets and AHT's)	Mon 9/3/12	Fri 6/28/13													
38	Advocate for Curriculum Review Committee to have equal representation from vets and AHT's	Mon 9/3/12	Fri 6/28/13													
39	Review mandate of Animal Care Committee	Tue 5/1/12	Fri 6/28/13													
40	Curriculum: Review and revise curriculum	Tue 5/1/12	Fri 6/30/17													
41	Explore a modular approach to curriculum design	Tue 5/1/12	Fri 8/31/12													
44	Remove outdated items (content & testing)	Tue 5/1/12	Fri 6/30/17													
45	Use a variety of teaching/testing strategies	Tue 5/1/12	Fri 6/30/17													
47	Increase animal behaviour content in courses (would require resources, e.g. videos, books)	Tue 5/1/12	Fri 6/30/17													
48	Increase hands-on time with basic practical skills	Tue 5/1/12	Fri 6/30/17													
51	Explore the use of technology e.g. Clickers	Tue 5/1/12	Fri 6/30/17													
52	Review student clinic choice for practicum to ensure that students are not placed where they are already working	Tue 5/1/12	Fri 6/30/17													
53	Remove Tuesday practicums	Mon 9/3/12	Fri 6/28/13													

Project: 2012.04.17-Visioning map
Date: Wed 8/15/12

Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
Split		External Tasks		Inactive Summary		Manual Summary		Progress	
Milestone		External Milestone		Manual Task		Start-only			
Summary		Inactive Task		Duration-only		Finish-only			

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