Health, Welfare, and Diseases of Shelter Animals Syllabus (APBI 490E) Section 202
Introduction to canine/feline health and welfare, and diseases in the shelter setting. Pathophysiology, diagnosis, management, prevention, and treatment of diseases; practical clinical applications to shelter management. The focus will be on diseases that are commonly seen in western Canada.

Course Description:

This course aims to provide an overview of canine and feline infectious diseases that are commonly encountered in animal shelters. It provides an introduction to the problem-oriented medical record system (POMR), clinical signs, diagnosis, and treatment of disease. It also introduces epidemiology and population-based health, and encourages a critical eye when evaluating husbandry practices. The relationship between animal welfare and disease will be examined from both a clinical and practical approach.
Case-based discussions and problem-based learning are a crucial part of the course. This will allow students to use the clinical knowledge and skills they have gained and apply it practically to real-life cases.
This course is designed for students with intent to pursue a career in veterinary medicine, students interested in post-graduate animal welfare research, and students with an interest in the animal care community.

Course Details:

Instructor: Alex Boo, BSc. (Hons), D.V.M
Location: West Mall Swing Space 107
Time: Mondays 13:00- 16:00
Teaching assistant: Antonio Hou
Office hours: There are no structured, scheduled office hours. Students are encouraged to contact the instructor directly through email with any questions.
Textbook: no required textbook material needed. All information will be provided through lecture notes and assigned readings.

Learning Outcomes:

Upon completion of this course, students will be able to:

- understand the importance of early monitoring, stress management and housing management in the prevention and treatment of disease in the shelter setting
- use the problem oriented medicine approach to present a clinical case and understand its role in diagnosis and patient management
- be able to recognize and describe common clinical signs, diagnoses, and evidence-based treatment methods for common diseases in felines and canines in the shelter setting
- compare the components of a complete and nutritionally balanced diet in

canines and felines and its importance in disease management

- understand the term “zoonoses” and its role in shelter animal health, and in a broader setting in global animal health

- describe “access to care” in terms of the one-health umbrella
- understand the complexity of the barriers/challenges to access to care and be able engage in discussions regarding these topics
- explain the link between human, animal, and ecosystem health, the human-animal bond
- critically summarize and review an infectious disease of their choosing not covered in lecture

Materials and Assessment:

- majority lecture-based course with time allocated for (25%) practical case based discussion

Guided tour of a local animal shelter with patient assessment and critical analysis (10% of total grade)

- Students are expected to attend the animal shelter tour and complete the worksheet provided.
- Students who are unable to attend are expected to organize an alternative method of evaluation with the instructor.

Term assignment - Review paper or Infographic (15% of total grade)

- Critically summarize and review an infectious disease of choice, not covered in lecture; examples include and are not limited to: canine/feline Rabies, Leptospirosis, Lyme disease, and Heartworm disease
- Components include signalment, clinical signs, pathophysiology, physical exam signs, diagnostics helpful to diagnose the disease, treatment options and prognosis.
- Word limit: 1500 words maximum, diagrams optional (not included in word count).

Midterm (30% of total grade)

- A multiple choice, true/false, and short answer midterm will be scheduled halfway through the term on the material covered in lecture.

Final Exam (40% of total grade)

- A final exam comprising of material from the midterm onwards. ○ Multiple choice, short answer, and case based long –answer questions ○ Breakdown of final exam may change depending on material covered Participation (10% of total grade)
- Students are expected to participate in the case-based discussion portions (in-class) to supplement and support problem-based learning.

	Points
Animal shelter tour assignment	5
Term Assignment	15
Midterm	30
Final Exam	40
Participation	10
	Total: 100

A sample lecture schedule is summarized below for (Monday Jan 9- Monday April 10)
-lecture topics may change depending on final decision of instructor.

Lecture	**Topic**	**Reading**
Introduction		
Week 1- January 9th 2023	Introduction, expectations, and how does disease apply in the framework of animal welfare? • Feline idiopathic cystitis	Fraser, D. Understanding animal welfare: the science in its cultural context Ames, Iowa: Wiley Blackwell. Naarden, B., & Corbee, R. J. (2020). The effect of a therapeutic urinary stress diet on the short-term recurrence of feline idiopathic cystitis. *Veterinary medicine and science*, *6*(1), 32–38. https://doi.org/10.1002/vms3.197
Week 2- January 16th 2023	Problem Oriented Medicine Approach	Lorenz, M. D. (2009). The problem-oriented approach. *Small animal medical diagnosis,*.

Week 2- January 16th 2023	Nutrition: the fifth vital assessment	Freeman, L., Becvarova, I., Cave, N., MacKay, C., Nguyen, P., Rama, B., Takashima, G., Tiffin, R., van Beukelen, P., & Yathiraj, S. (2011). WSAVA Nutritional Assessment Guidelines. *Journal of Feline Medicine and Surgery*, *13*(7), 516–525.
Week 3- January 23rd 2023	Three aims of infection control: host susceptibility, optimizing ability to resist diseases, and decreasing exposure to pathogens	Miller, L., & Zawistowski, S. (2013). *Shelter medicine for veterinarians and staff.* 2nd ed. Ames, Iowa: Wiley-Blackwell.
Week 3- January 23rd 2023	Epidemiology -Agent, Host, and Environmental Determinants of disease Guest Lecturer Dr. Doris Leung Canadian Animal Health Surveillance System (CAHHS)	Miller, L., & Zawistowski, S. (2013). *Shelter medicine for veterinarians and staff.* 2nd ed. Ames, Iowa: Wiley-Blackwell.
Gastrointestinal Disease		
Week 4- January 30th 2023	Canine Viral Gastrointestinal Disease	Miller, L., & Zawistowski, S. (2013). *Shelter medicine for veterinarians and staff.* 2nd ed.

	-Canine Parvovirus -Canine Distemper virus	Ames, Iowa: Wiley-Blackwell. Miller, L. (2021). *Infectious disease management in animal shelters*. Hoboken, New Jersey: Wiley Blackwell.
Week 4- January 30th 2022	Feline Viral Gastrointestinal Disease -Feline Enteric Coronavirus, Feline infectious peritonitis -Feline panleukopenia virus	Miller, L., & Zawistowski, S. (2013). *Shelter medicine for veterinarians and staff.* 2nd ed. Ames, Iowa: Wiley-Blackwell. Miller, L. (2021). *Infectious disease management in animal shelters*. Hoboken, New Jersey: Wiley Blackwell.
Week 5- February 6th 2023	Feline Mystery GI- Guest Lecturer Dr. Emilia Wong-Gordon	
Week 5- February 6th 2023	Capacity 4 Care	Karsten C., Wagner D., Kass P., Hurley K. (2017). An observational study of the relationship between Capacity for Care as an animal shelter management model and cat health, adoption and death in three animal shelters. The Veterinary Journal 227:15-22.

Week 6 February 13th 2023	Parasites (both dogs and cats) Campylobacter, Clostridium, Salmonella, Cryptosporidium, Isospora, Toxoplasma, Tritrichomonas foetus, Nematodes	Raza, A., Rand, J., Qamar, A., Jabbar, A., & Kopp, S. (2018). Gastrointestinal Parasites in Shelter Dogs: Occurrence, Pathology, Treatment and Risk to Shelter Workers. *Animals*, *8*(7), 108. doi:10.3390/ani8070108
Week 6 February 13th 2023	External Parasites: Sarcoptic Mange Demodectic Mange Dermatophytosis Fleas Ticks Ear mites	Miller, L., & Zawistowski, S. (2013). *Shelter medicine for veterinarians and staff.* 2nd ed. Ames, Iowa: Wiley-Blackwell. Miller, L. (2021). *Infectious disease management in animal shelters*. Hoboken, New Jersey: Wiley Blackwell.
Week 6 February 13th 2023	Zoonoses/One Health Toni Hou: Research topic	

Week 7 - Midterm Break February 20th 2023		
Week 8 - Midterm Exam February 27 2023		
Feline Retrovirus		
Week 9 - March 6th 2023	Feline immunodeficiency virus Feline Leukemia virus	Little, S., Levy, J., Hartmann, K., Hofmann Lehmann, R., Hosie, M., Olah, G., & Denis, K. S. (2020). 2020 AAFP Feline Retrovirus Testing and Management Guidelines. *Journal of Feline Medicine and Surgery*, *22*(1), 5–30. https://doi.org/10.1177/1098612X19895940
Respiratory Disease		
Week 10 March 13th 2023	Canine Respiratory Disease -Canine Infectious Respiratory Disease Complex -Canine Distemper	Miller, L., & Zawistowski, S. (2013). *Shelter medicine for veterinarians and staff.* 2nd ed. Ames, Iowa: Wiley-Blackwell. Miller, L. (2021). *Infectious disease management in animal shelters*. Hoboken, New Jersey: Wiley Blackwell.

	Virus -Canine Influenza Virus	

Dermatological Disease		
Week 10 March 13th 2023	Dermatophytosis	Miller, L., & Zawistowski, S. (2013). *Shelter medicine for veterinarians and staff.* 2nd ed. Ames, Iowa: Wiley-Blackwell. Miller, L. (2021). *Infectious disease management in animal shelters*. Hoboken, New Jersey: Wiley Blackwell.
Week 11 March 20th 2023	Feline Respiratory Disease -Feline Calicivirus -Feline Herpesvirus -Chlamydophilia felis -Mycoplasma	Miller, L., & Zawistowski, S. (2013). *Shelter medicine for veterinarians and staff.* 2nd ed. Ames, Iowa: Wiley-Blackwell. Miller, L. (2021). *Infectious disease management in animal shelters*. Hoboken, New Jersey: Wiley Blackwell.
Week 12 March 27th 2023	Feline URI- A tale of two outbreaks Guest Lecturer Dr. Emilia Wong-Gordon	Wagner D., Kass P., Hurley K. (2018) Cage size, movement in and out of housing during daily care, and other environmental and population health risk factors for feline upper respiratory disease in nine North American animal shelters. PLOS ONE 13(1): e0190140.

		https://doi.org/10.1371/journal.pone.0190140 Lappin M., Blondeau J., Boothe D, Breitschwerdt E., Guardabassi L, Lloyd D., Papich M., Rankin S., Sykes J., Turnidge J, Weese J. (2017). Antimicrobial use Guidelines for Treatment of Respiratory Tract Disease in Dogs and Cats: Antimicrobial Guidelines Working Group of the International Society for Companion Animal Infectious Diseases. Journal of Veterinary Internal Medicine 31(2):279-294. Wagner D, Hurley K, Stavisky J. (2018). Shelter housing for cats: Principles of design for health, welfare and rehoming. Journal of Feline Medicine and Surgery 20(7):635-642. doi:10.1177/1098612X18781388
Week 13 April 3rd 2023	BC SPCA Shelter and Hospital Tour - Dr. Hannah Weitzenfeld/ Dr. Kyla Townsend/ Dr. Ashton Wickaramatne	Address: 1205 E 7th Ave, Vancouver, BC V5T 1R1

Week 14 April 13th 2023	Final Exam (Take Home)	