



DEPARTMENT OF ANIMAL SCIENCE

COURSE OUTLINE – WINTER 2021

AH 240 ADVANCED ANATOMY AND PHYSIOLOGY – 2.5 (3.5-0-1) 72 HOURS

16 Weeks

INSTRUCTOR: DR. Susan Klassen
DR. Chris Mizzi

PHONE: 780-835-6633
780-835-6617

OFFICE: FAS 141
FAS 133

E-MAIL: sklassen@gprc.ab.ca
cmizzi@gprc.ab.ca

Note that Faculty may be working from offices and from home

OFFICE HOURS: for Winter 2021 Semester.

WINTER 2021 DELIVERY:

Mixed Delivery – Remote and Onsite. This course is delivered remotely with some face-to-face/onsite components at the GPRC *Fairview* campus.

- For the remote delivery components: students must have a computer with a webcam and reliable internet connection. Technological support is available through helpdesk@gprc.ab.ca.
- For the onsite components: students must supply their own mask [and/or face shield] and follow [GPRC Campus Access Guidelines and Expectations](#).

Note: GPRC reserves the right to change the course delivery.

CALENDAR DESCRIPTION:

Students will develop proper anatomical and physiology terminology. Instruction of cellular biology and physiology will progress into an understanding of organization of cells into tissues, organs and body systems. A working knowledge of body systems will include basic components and functions. The inflammatory process and tissue response to disease or injury will be covered briefly. Students will receive hands-on instruction on necropsy procedures for small and large animal species. Proper collection, handling, and submission of samples and transportation of dangerous goods is discussed or demonstrated.

PREREQUISITE(S)/COREQUISITE:

- Must be registered in the GPRC Animal Health Technology Program
- AH141 and AH174

REQUIRED TEXT/RESOURCE MATERIALS:

- Colville & Bassert, *Clinical Anatomy & Physiology for Veterinary Technicians*, Mosby
- McCracken & Kainer, *Color Atlas of Small Animal Anatomy*, Wiley-Blackwell
- McCracken, Kainer, & Spurgeon, *Spurgeon's Color Atlas of Large Animal Anatomy*, Wiley-Blackwell

DELIVERY MODE(S):

Lecture & Lab

MIXED USING D2L global software for Lecture purposes, the Brightspace learning management system, which is a cloud-based software used by GPRC for online and blended classroom learning.

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page

<http://www.transferalberta.ca>.

**** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

EVALUATIONS:

GRADING CRITERIA:
GRADING CONVERSION CHART for ANIMAL HEALTH TECHNOLOGY
OVERALL GRADE POINT AVERAGE HAS TO BE 2.0 OR HIGHER TO BE SUCCESSFUL IN THE AHT PROGRAM.

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100	C+	2.3	67-69
A	4.0	85-89	C	2.0	63-66
A-	3.7	80-84	C-	1.7	60-62
B+	3.3	77-79	FAIL	1.3	55-59
B	3.0	73-76	FAIL	1.0	50-54
B-	2.7	70-72	WF	0.0	00-49

EXAMINATIONS

Mark Distribution

A. Anatomy/Physiology*

55%

*

Quizzes and assignments 15%

Comprehensive Final Exam 28%

Comprehensive Lab Exam 12%

B. Pathology

45%

Quizzes and Assignments 22%

Lab 5%

Final Exam 18%

100%

*A minimum of 60% must be obtained in the entire course in order to successfully pass AH240.

**** Comprehensive Exams for Anatomy/Physiology include material from Anatomy/Physiology I**

COURSE SCHEDULE/TENTATIVE TIMELINE:

Anatomy and Physiology for 8 weeks, followed by Pathology and Pathology labs for the remaining 8 weeks.

EVALUATIONS:

This course is a continuation of AH141 Anatomy & Physiology I and will continue with the body systems where the first course left off. **Material from AH141 will be tested in the final written and practical exams for the Anatomy/Physiology portion of the course.**

To pass this course, student must achieve a minimum overall grade of 60% in the entire course. Attendance is essential for success in this class, and if a student misses a class or a lab (including quizzes and exams), any assignments and/or quizzes and/or exams and/or handouts, whether scheduled or not, that occur or are distributed in the class or lab that was missed, will not be provided to the student or made up in any way. The student will be assigned a mark of zero for those assignments/exams/ etc. missed. IF the student contacts the instructor PRIOR to missing a class/lab/exam/etc., and if the student has an acceptable excuse (the validity of the excuse is at the discretion of the instructor and will require documentation such as a note from a doctor), the student may be excused without penalty and may be given access to the missed material. Overall excessive absence, coming to class late, or leaving during class, may result in mark deductions at the instructor's discretion. Absences of more than 3 hours of class will be noted and mark deductions WILL result (1% from the final course mark for each hour of unexcused absence and also for excused absences at the discretion of the instructor).

For examination policies, please see the GPRC Examination Policy document.

COURSE SCHEDULE/TENTATIVE TIMELINE:

Anatomy & Physiology Component

A. Respiratory System

Upon successful completion of this unit, the student will be able to identify the components of the respiratory system and discuss their functions.

B. Nervous System

Upon successful completion of this unit, the student will be able to identify the components of the nervous system and discuss their functions.

C. Special Senses

Upon successful completion of this unit, the student will be able to identify the main anatomical features of the ear, eye, and nasal cavity, and discuss the functions of each of the special senses.

D. Urinary System

Upon successful completion of this unit, the students will be able to identify the components of the urinary system and discuss their functions.

E. Endocrine & Immune Systems

Upon successful completion of this unit, the student will be able to identify the components of the immune and endocrine systems, and discuss their functions.

F. Reproductive System

Upon successful completion of this unit, the student will be able to identify the components of the reproductive systems of the male and female, and discuss their functions.

Pathology

A. Information Section

Upon successful completion of this Learning Outcome Guide, you will be able to use proper pathological terminology.

1. Define disease.
2. List and explain the causes of disease.
3. Define the following terms: pathology, pathologist, syndrome, symptoms, clinical signs, lesions, and prognosis.
4. Use terms provided in the pathology glossary.
5. List the categories used to describe lesions.
6. Define the terms used to describe lesions.

B. Inflammation

Upon successful completion of this Learning Outcome Guide, you will be able to explain the inflammatory process.

1. Define inflammation.
2. List the signs of inflammation.
3. Discuss the purpose and causes of inflammation.
4. Describe the components of the inflammatory response.
5. Define Chemotaxis, Phagocytosis, Suppuration, Empyema, and Cellulitis.
6. Discuss the role of the components of the granulocytic and monocytic series.
7. Explain and classify exudates, and list an example for each type of exudate.

C. Response to Disease (Injury)

Upon successful completion of this Learning Outcome Guide, you will be able to explain tissue response to disease and injury.

1. Define the following terms: contusion, laceration, wound, concussion, abrasion, erosion, ulcer, slough, necrosis, apoptosis, anthracosis, melanosis, amelanotic, autolysis, rigor mortis, algor mortis, livor mortis.
2. Describe degenerative lesions.
3. Describe pathological pigmentation.
4. List and describe circulatory disturbances.
5. List five factors which affect the rate of autolysis.
6. Compare and contrast a) dystrophic and metastatic calcification. b) wet and dry gangrene. c) petechial and ecchymotic hemorrhages. d) purpura, and disseminated intravascular coagulation.
7. List and describe the 4 types of hypersensitivity reactions.

D. Neoplasia

Upon successful completion of this Learning Outcome Guide, you will be able to explain common types of neoplasia

1. Define the following: neoplasia, anaplasia, metaplasia, oncology, oncogenic, blastoma, cachexia, metastasis, infiltration, "sarcoma", "carcinoma", "oma".
2. List 6 characteristics of neoplasia.
3. Describe 3 methods of metastasis of neoplasia.
4. Compare and contrast benign and malignant tumors.
5. List the most common tumor of horses, cattle and cats.
6. List the 3 types of testicular tumors of dogs and discuss the clinical signs of each type.

E. Post-Mortem Techniques

Upon successful completion of this Learning Outcome Guide, you will be able to explain post-mortem techniques.

1. Describe the position for placing the following animals for post-mortem examination: a) non-ruminants b) large ruminants c) small laboratory animals, small fur bearing animals and avian species.
2. Define the following terms: "pluck", "in-situ", Psittacine birds, ante-mortem, autopsy, necropsy.
3. Compare the advantages and disadvantages of common fixatives used for preservation of pathological specimens.
4. Describe and demonstrate correct packaging of pathological samples to conform with safety, legal and preservation requirements.
5. Outline special procedures performed in a) the necropsy of a fetus and b) avian necropsy.

STUDENT RESPONSIBILITIES:

Enrolment at GPRC assumes that the student will become a responsible citizen of the College. As such, each student will display a positive work ethic, take pride in and assist in the maintenance and preservation of Institute property, and assume responsibility for his/her education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting instructor expectations concerning attendance, assignments, deadlines, and appointments.

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Calendar at <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at <https://www.gprc.ab.ca/about/administration/policies>

**Note: all Academic and Administrative policies are available on the same page.