

## **ACP 501, Anatomy and Physiology**

*6 credits*

### **Course Description**

This course is a study of the fundamentals of human body structure and function with emphasis on those systems of particular importance to the training of paramedics. It will build upon the previous education the students have had in this area.

*Pre-requisites: None*

*Co-requisites: ACP 502 ACP 503*

### **Instructor**

Dawn Brownschlaigle ACP, BScHS, BScN

Office: BL253

Contact information: email [dawn.brownschlaigle@keyano.ca](mailto:dawn.brownschlaigle@keyano.ca) or text via MS Teams

### **Office Hours**

*0800 - 1700*

### **Course Hours**

*90 hours*

**Resources**

Patton, K.T., Bell, F., Thompson, T., & Williamson, P. (2022). Anatomy & Physiology (11<sup>th</sup> ed.). Elsevier.

*Additional resources provided in Moodle.*

**Course Outcomes**

Upon successful completion of the course, the student shall have an understanding to:

- Use anatomical and physiological terminology to comprehend and communicate information on the structure and function of the body.
- Explain principles of organic and inorganic chemistry as they apply to physiological processes.
- Analyze the normal structure and function of human cells, tissues, organs, and organ systems.
- Explain the inter-relationships between cells, tissues, organs, and organ systems and physiological process.

**Evaluation**

- Students must achieve a minimum of **76%** (B) for final course grade to progress
- Midterm and Final Exams require mandatory attendance. Absences will require approval.
- **Absence from exams and quizzes require prior approval and will be handled based on Policies and Procedures for Keyano College:** <https://www.keyano.ca/en/about-us/policies-andprocedures.aspx>

**Grading System**

Descriptor	Alpha Scale	4.0 Numeric Scale	Percentage
Excellent	A+	4.0	96-100
	A	4.0	90-95
	A-	3.7	85-89
Good	B+	3.3	80-84
	B	3.0	76-79
	B-	2.7	72-75
Satisfactory	C+	2.3	68-71
	C	2.0	64-67
	C-	1.7	60-63
Poor Minimum Pass	D+	1.3	55-59
	D	1.0	50-54
Failure	F	0	0-49

**Students must receive and 76% or B to be successful in this course**

Evaluation	Grade weight
<b>Quizzes</b> <ul style="list-style-type: none"><li>There will be 10 quizzes total - the <u>best 9 quiz grades</u> will be used for final course grading</li><li>Open book</li></ul>	20%
<b>Midterm Exam 1</b> <ul style="list-style-type: none"><li>Modules 1-4</li><li>Feb 27, 2023 @ 09:00</li></ul>	20%
<b>Midterm Exam 2</b> <ul style="list-style-type: none"><li>Modules 5-6</li><li>March 27, 2023 @ 0900</li></ul>	25%
<b>Final Exam</b> <ul style="list-style-type: none"><li>Multiple choice (100 questions)</li><li>Modules 1 – 10</li><li>April 24, 2023</li></ul>	35%
<b>Total Course Grade</b>	<b>100%</b>

*\* Multiple-choice exam designed to introduce the student to the Alberta College of Paramedics' style of written examinations.*

**Proposed Schedule Dates**

**Mondays and Wednesdays**

- Morning class                    09:00 – 11:50
- Afternoon class                13:00 – 15:50 (make up for tech weeks and holiday time)

Jan 9  
Jan 11  
Jan 16

**Module 1: Intro, Cells, and Tissues**

- Course outline and expectations
- Chapter 1: Organization of the Body
- Chapter 2: Homeostasis
- Chapter 3: Chemical Basis of Life
- Chapter 4: Biomolecules
- Chapter 5: Cell Structure
- Chapter 6: Cell Function
- Chapter 8: Introduction to Tissues
- Chapter 9: Tissue Types
- Chapter 10: Skin

*Quiz 1 – Module 1 – due Jan 26 @ 09:00*

Jan 18  
Jan 23  
Jan 25 (am)  
Jan 25 (pm)

**Module 2: Musculoskeletal**

- Chapter 11: Skeletal Tissues
- Chapter 12: Axial Skeleton
- Chapter 13: Appendicular Skeleton
- Chapter 14: Articulations
- Chapter 15: Axial Muscles
- Chapter 16: Appendicular Muscles
- Chapter 17: Muscle Contraction

*Quiz 2 – Module 2 – due Jan 31 @ 09:00*

Jan 30 (am)  
Jan 30 (pm)  
Feb 1 (am)  
Feb 1 (pm)

**Module 3: Nervous System**

- Chapter 18: Nervous System Cells
- Chapter 19: Nerve Signaling
- Chapter 20: Central Nervous System
- Chapter 21: Peripheral Nervous System
- Chapter 22: Autonomic Nervous System
- Chapter 23: General Senses
- Chapter 24: Special Senses

*Quiz 3 – Module 3 – due Feb 6 @ 09:00*

Feb 6  
Feb 8

**Module 4: Endocrine**

- Chapter 25: Endocrine Regulation
- Chapter 26: Endocrine Glands

*Quiz 4 – Module 4 – due Feb 13 @ 09:00*

TECH WEEK February 13-17, 2023	
READING WEEK February 20-24, 2023	
<b>Feb 27</b>	<b>MIDTERM #1</b> Modules 1-4
Mar 1 Mar 6 (am) Mar 6 (pm) Mar 8	<b>Module 5: Cardiovascular and Lymphatic</b>  <ul style="list-style-type: none"> <li>• Chapter 27: Blood</li> <li>• Chapter 28: Heart</li> <li>• Chapter 29: Blood Vessels</li> <li>• Chapter 30: Circulation of Blood</li> <li>• Chapter 31: Lymphatic System</li> <li>• Chapter 32: Innate Immunity</li> <li>• Chapter 33: Adaptive Immunity</li> <li>• Chapter 34: Stress</li> </ul> <a href="#">Quiz 5 – Module 5 – due Mar 13 @ 09:00</a>
Mar 13 (am) Mar 13 (pm)	<b>Module 6: Respiratory</b>  <ul style="list-style-type: none"> <li>• Chapter 35: Respiratory Tract</li> <li>• Chapter 36: Ventilation</li> <li>• Chapter 37: Gas Exchange and Transport</li> </ul> <a href="#">Quiz 6 – Module 6 – due Mar 20 @ 09:00</a>
TECH WEEK March 20-24, 2023	
<b>March 27</b>	<b>MIDTERM #2</b> Modules 5-6
****Mar 15 Mar 29 (am) Mar 29 (pm)	<b>Module 7: Digestive System</b>  <ul style="list-style-type: none"> <li>• Chapter 38: Upper Digestive Tract</li> <li>• Chapter 39: Lower Digestive Tract</li> <li>• Chapter 40: Digestion and Absorption</li> <li>• Chapter 41: Nutrition and Metabolism</li> </ul> <a href="#">Quiz 7 – Module 7 – due Apr 3 @ 09:00</a>
Apr 3 (am) Apr 3 (pm) Apr 5	<b>Module 8: Urinary System</b>  <ul style="list-style-type: none"> <li>• Chapter 42: Urinary System</li> <li>• Chapter 43: Fluid and Electrolyte Balance</li> <li>• Chapter 44: Acid-Base Balance</li> </ul> <a href="#">Quiz 8 – Module 8 – due April 12 @ 09:00</a>
April 12 (am) Apr 12 (pm)	<b>Module 9: Reproductive System</b>  <ul style="list-style-type: none"> <li>• Chapter 45: Male Reproductive System</li> <li>• Chapter 46: Female Reproductive System</li> </ul> <a href="#">Quiz 9 – Module 9 – due April 12 @ 09:00</a>

---

April 17	<b>Module 10: Development and Inheritance</b>
	<ul style="list-style-type: none"><li>Chapter 48: Genetics and Heredity</li></ul> <i>Quiz 10 – Module 10 – due <b>April 18</b> @ 0900</i>
April 19	Review modules 1-10
<b>April 24, 2023</b>	<b>FINAL EXAM</b> Modules 1 – 10

---

**Please Note:**

Date and time allotted to each topic is subject to change.

## Performance Requirements and Student Services

### Student Responsibilities

As a student, it is your responsibility to contact the Office of the Registrar to complete the required forms, including the Withdraw Course or Program or a Change of Registration form. Please refer to the important dates listed in the Academic Schedule in the [Keyano College credit calendar](#). The Keyano College credit calendar also has information about Student Rights and the Code of Conduct. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and the Code of Conduct Policies.

### Student Attendance

Class attendance is helpful for two reasons: First, class attendance maximizes a student's learning experience. Second, attending class is an excellent way to keep informed of matters relating to the course administration (e.g., the timing of assignments and exams). Ultimately, you are responsible for your learning and performance in this course. It is the responsibility of each student to be prepared for all classes. Absent students are responsible for the material covered in those classes, and students must ensure they are ready for their next class, including completing any missed assignments and notes.

### Academic Misconduct

Students are considered responsible adults and should adhere to the principles of intellectual integrity. Intellectual dishonesty takes many forms:

- Plagiarism or the submission of another person's work as their own,
- The use of unauthorized aids in assignments or examinations (cheating),
- Collusion or the unauthorized collaboration with others in preparing work,
- The deliberate misrepresentation of qualifications,
- The willful distortion of results or data,
- Substitution in an examination by another person,
- Submitting unchanged work for another assignment, and
- Breach of confidentiality.

The consequences for academic misconduct range from a verbal reprimand to expulsion from the College. More specific descriptions and details are found in the Student Rights and Code of Conduct section of the Keyano College credit calendar. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Code of Conduct Policies. To ensure your understanding of plagiarism, you may be required to complete the online [Understanding Plagiarism tutorial](#) and submit the certificate of completion.

### Online Learning

Technology and internet connectivity will impact your online learning experience. You may be required to watch online videos, take online quizzes, or participate in live online classes. Live/virtual courses will be hosted in Microsoft Teams or Zoom. For all course delivery types, you will access your course resources on Keyano's learning management system: Moodle (iLearn). Login in using your [Keyano username and password](#). Keyano College operates in a Windows-based environment and having access to the correct tools for online learning is essential.

### Internet Speed

Minimum download and upload speeds of 10 Mbps. Recommended download speeds of 25 Mbps and upload speeds of 10 Mbps (if you are sharing your internet at home). You can check your internet speed with [Speedtest by Ookla](#).

## Computer System Requirements

Keyano College software are Windows based.

### Minimum Requirements and Recommended Upgrades for Windows (preferred system) and Apple devices

These minimum standards are required for a Windows computer/laptop (OS 10 or 11) and a MacIntosh (OS 10.14 or above).

1. Windows 10 Operating System or above
2. 4GB of RAM. Recommended upgrade to 8GB of RAM.
3. 10GB+ available hard drive storage space. Note installing Microsoft Office 365 requires 3GB of available hard drive space.
  - a. Install the Microsoft Office 365 suite (~3GB) \*
4. Microphone, webcam, and speakers (All modern laptops have these three accessories built-in. However, a headset or earbuds with a microphone is also recommended.
5. Windows has built-in anti-virus/malware software. It is essential to install system updates to keep your device secured regularly.

\*[Microsoft Office 365](#) is free to Keyano students.

Tablets, iPads, and Chromebooks are **not** recommended: they may not be compatible with the testing lockdown browsers and Microsoft Office 365.

## Specific Department Requirements

Business and OA programs require Windows 10 or higher.  
Other programs may utilize Windows-based tools as well.

## Computer Software

Students have access to Microsoft Office 365 and Read & Write for free using Keyano credentials.

See [Recommended Technology](#) for more information.

## Recording of Lectures and Intellectual Property

Students may only record a lecture if explicit permission is provided by the instructor or Accessibility Services. Even if students have permission to record a lecture or lecture materials, students may not share, distribute, or publish any of the lectures or course materials; this includes any recordings, slides, instructor notes, etc., on any platform. Thus, no student is allowed to share, distribute, publish or sell course-related content without permission. It is important to recognize that the Canadian Copyright Act contains provisions for intellectual property. The [Academic Integrity Policy](#) provides additional information on Keyano College's expectations from students as members of the intellectual community.

## ITS Helpdesk

If you have issues with your student account, you can contact the ITS Helpdesk by emailing [its.helpdesk@keyano.ca](mailto:its.helpdesk@keyano.ca) or calling 780-791-4965.





## Specialized Supports

The Student Services Department is committed to Keyano students and their academic success. There is a variety of student support available at Keyano. All student services are available during Keyano business hours: Monday to Friday, 8:30 a.m. to 4:30 p.m. The College is closed on statutory holidays. If you require support outside of regular business hours, please inform the support service team, and they will do their best to accommodate your needs.

**Accessibility Services** provides accommodations for students living with disabilities. Students with documented disabilities or who suspect a disability can meet with an Access Strategist to discuss their current learning barriers and possible accommodations. Students who have accessed accommodations in the past are encouraged to contact the department to request accommodations for the following semester. Please note that requesting accommodations is a process and requires time to arrange. Contact the department as soon as you know you may require accommodations. For accessibility supports and disability-based funding, please book an appointment by emailing us at: [accessibility.services@keyano.ca](mailto:accessibility.services@keyano.ca).

Accessibility Services also provides individual and group learning strategy instruction for all students and technology training and support to enhance learning. You can meet with an Access Strategist to learn studying and test-taking strategies. In addition, you can schedule an appointment with the Assistive Technology Specialist to explore technology tools for learning. Book an appointment today by emailing: [accessibility.services@keyano.ca](mailto:accessibility.services@keyano.ca)

**Wellness Services** offers a caring, inclusive, and respectful environment where students can access free group and individual support to meet academic and life challenges. Mental Health Coordinators provide a safe and confidential environment for you to seek help with personal concerns. Our Wellness Navigator offers support with basic needs such as housing, financial and nutritional support, and outside referrals when needed. Wellness Services welcomes students to participate in group sessions that address topics including mindfulness and test anxiety throughout the academic year. Individual appointments can be made by emailing [wellness.services@keyano.ca](mailto:wellness.services@keyano.ca).

**Library Services** provides students with research, information, and educational technology supports as they engage in their studies. Library staff are available to help you online and in person throughout the semester. Librarians offer individual and small group consultations booked using the online [Book A Librarian calendar](#). The library also provides virtual research and subject guides to help you with your studies. Find the guide that supports your course-related research by viewing the complete list of online [Subject Guides](#). To start your research and access citation guides (APA, MLA, Chicago, or IEEE), visit the [Research Help page](#). The library's collections (including print and online materials) are searchable using [OneSearch](#). The library offers a Loanable Technology collection to support students accessing and using technology. For an up-to-date list of technology available for borrowing, visit the library's [Loanable Technology webpage](#). For a detailed list of library resources and services, go to [www.keyano.ca/library](http://www.keyano.ca/library). For all inquiries, please email [askthelibrary@keyano.ca](mailto:askthelibrary@keyano.ca) or [chat with us online](#).

The **Academic Success Centre** at Keyano College (CC-119) provides **free** academic support services to registered students, such as tutoring, writing support, facilitated study groups, workshops, and study space. Academic Content Specialists are available in Mathematics, Science, Trades, Power Engineering, Upgrading/College Prep, Human Services, English, Humanities, and more. Students are encouraged to visit the Academic Success Centre to discuss study strategies and academic concerns. For additional information, please email [Academic.Success@keyano.ca](mailto:Academic.Success@keyano.ca).

The **Academic Success Coach** is located in the Academic Success Centre and works with students to develop academic success plans, time management skills, study strategies, and homework plans. For additional information, please email [Academic.Success@keyano.ca](mailto:Academic.Success@keyano.ca).

## Authorization

This course outline has been reviewed and approved by the Program Chair.

---

[Dawn, Brownschlaigle], Instructor

---

[Candi, Muise], Chair

Date Authorized

---

[Arlene, Starks], Dean

Date Authorized

**Signed copies to be delivered to:**

Instructor