

**ACP 514, Advanced Paramedic Skills**

*3 credits*

**Course Description**

This course focuses on relating knowledge to field practice. Students will apply knowledge and values of paramedicine while practicing the advanced skills of the advanced life support provider in the lab setting. They will research the controversy surrounding increased expectations of paramedics to practice invasive procedures in the field. Students will be expected to demonstrate mastery of a basic life support (BLS) assessment survey and the common advanced life support (ALS) skills taught in the prehospital skills course.

**Primary Instructors**

Manpreet Uppal ACP

Office: BL255

**Emails:**

Manpreet.uppal@keyano.ca

**Office Hours**

*0800 - 1700*

**Hours of Instruction**

*72 hours*

## Resources

American Academy of Pediatrics., & American Heart Association. (2020). *Pediatric advanced life support – provider manual: PALS*.

Campbell, J. E., American College of Emergency Physicians (2019). *International trauma life support: ITLS* (9<sup>th</sup> ed.). Upper Saddle River, N.J: Pearson/Prentice Hall.

Caroline, N. (2021). *Nancy Caroline's emergency care in the streets* (8<sup>th</sup> ed.). Jones & Bartlett Learning.

(2021). *Clinical Skills: Emergency Collection* (1<sup>st</sup> ed.). Elsevier.

Field, J. M., Gonzales, L., Hazinski, M. F., Ruple, J. A., & American Heart Association. (2020). *Advanced cardiovascular life support provider manual: ACLS*. Dallas, TX: American Heart Association.

Phalen, T., & Aehlert, B. (2019). *The 12-lead ECG in acute coronary syndromes*.

Weiner, G. M., Zaichkin, J., American Academy of Pediatrics., & American Heart Association. (2021). *Textbook of neonatal resuscitation*.

McCance, K. L., & Huether, S. E. (2019). *Pathophysiology: The biologic basis for disease in adults and children* (8<sup>th</sup> ed.). Maryland Heights, Mo: Mosby Elsevier.

Tintinalli, J. E., Stapczynski, J. S., Ma, O. J., Yealy, D. M., Meckler, G. D., & Cline, D. (2019). *Tintinalli's emergency medicine: A comprehensive study guide* (9<sup>th</sup> ed.). New York: McGraw-Hill Education.

## Course Outcomes

### General NOCP Competencies

**Area 4:** Assessment and Diagnostics

**Area 5:** Therapeutics

Upon successful completion of the course, the ACP student shall:

- Apply anatomy and physiology, pathophysiology, physical exam, presenting symptoms, history, and pharmacology to apply critical thinking, holistic approaches, and ALS interventions
- Implement standards of practice, scope of practice, protocols, and national competencies for a variety of medical and trauma ALS interventions
- Perform enhanced scene surveys, assessments, and comprehensive ALS treatments
- Utilize research to guide evidence-based practice and knowledge
- Perform high fidelity simulation (HFS) to demonstrate comprehensive ALS knowledge and skills for medical and trauma emergencies

Upon completion of this course the ACP student will demonstrate competency for ALS skills in a lab setting:

- Understand and apply universal precautions to all procedures
- Evaluation of human anatomy, pathophysiology, and mechanism of action when performing treatment procedures on adult and pediatric populations
- Understand the equipment, indications, contraindications, complications, considerations, confirmation, procedures, and ongoing monitoring for ALS skills.

## Cardiac Emergencies

- 12 and 15 lead ECG placement, interpretation, and treatments
- Transcutaneous pacing (TCP), manual defibrillation, and cardioversion
- Understand transvenous pacing (TVP) indications and complications

- Understand intraaortic balloon pump (IABP) indications and complications
- Understand pulmonary artery catheters (PAC) and central venous pressure (CVP) rationale, normal values, assessment, monitoring, and management

**Airway and Breathing**

- Needle decompression
- Chest tube monitoring
- Removal of foreign body airway obstructions (FBAO)
- Continuous positive airway pressure (CPAP) and positive end-expiratory pressure (PEEP)
- Endotracheal intubation, nasotracheal intubation, percutaneous and surgical cricothyrotomy, and percutaneous transtracheal catheter ventilation
- Manual and mechanical ventilation

**Vascular Access**

- Infusion pumps and pressure infusers
- Infusions of crystalloid and colloid solutions
- Peripheral intravenous (IV), external jugular cannulation, intraosseous (IO), scalp vein cannulation, and umbilical vein cannulation (UVC)
- Blood and blood product handling, initiation, and infusions
- Obtaining radial arterial blood gas (ABG) samples and interpretation of ABG results

**Other**

- Suturing
- Orogastric (OG) and nasogastric (NG) tubes and gastric lavage techniques
- Urinary catheterization for males and females
- Ostomy care
- Invasive core temperature monitoring and interpretation
- Interpret radiological, CT, US, MRI data

**Evaluation**

- Students must achieve a minimum of **80% (B+)** for total course grade to progress.
- Tech weeks require mandatory attendance. Absences will require prior approval.
- Students must demonstrate competence for each skill outlined in the Skills Booklet by getting two (2) sign offs by an instructor.

Evaluation	Grade weight
<b>Quizzes</b>	
<ul style="list-style-type: none"> <li>• There will be 3 quizzes total - 20% each</li> <li>• Multiple choice (20 questions each)</li> <li>• <i>See Moodle for quiz dates, times, and content associated</i></li> </ul>	60%
<b>Skills Sign Off</b>	
<ul style="list-style-type: none"> <li>• There are 2 mandatory sign off's for each skill</li> <li>• The student must participate in <u>all</u> tech week days and demonstrate competency by following steps outlined in Advanced Skills Booklet to receive a pass in this course</li> </ul>	P/F
<b>Final Exam</b>	
<ul style="list-style-type: none"> <li>• 50 multiple choice questions</li> <li>• <i>May 1, 2023 at 0900-1015</i></li> </ul>	40%
<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*

**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

**Proposed Schedule**

Classes will be held on Monday's from 0900-1200 hours

Dates	Modules and Content
February 6, 2023 February 13, 2023	<b>Module 1: TRAUMA</b> <ul style="list-style-type: none"> <li>• Tourniquet</li> <li>• Wound Packing</li> <li>• Pelvic Binding</li> <li>• IO insertion + Pressure Infuser</li> <li>• Needle Decompression</li> <li>• Blood Administration</li> <li>• Chest Tubes</li> <li>• Suturing</li> <li>• <a href="#">See Moodle for quizzes details</a></li> </ul>
February 27, 2023 March 6, 2023	<b>Module 2: AIRWAY</b> <ul style="list-style-type: none"> <li>• Airway Delivery Devices (NC, NRB, BVM, Oxygen Tanks, setting up circuits, PEEP)</li> <li>• ETCO<sub>2</sub> &amp; SpO<sub>2</sub></li> <li>• CPAP</li> <li>• Basic Airway Maneuvers (Head tilt Chin lift, Jaw thrust, and Sniffing Position)</li> <li>• Advanced Airways (i-Gel, LMA, King LTD-S)</li> <li>• Endotracheal Intubation (Adult &amp; Peds Airways)</li> <li>• Bougie *ETTI</li> <li>• Cricothyrotomy</li> <li>• PTTV/NASO</li> <li>• Video laryngoscopy</li> <li>• <a href="#">See Moodle for quizzes details</a></li> </ul>
<b>March 13-17, 2023</b>	<b>TECH WEEK</b> Skills stations for demonstrations, discussion, and practice Student will demonstrate skills outlined in Advanced Skills Booklet for 1 <sup>st</sup> sign off of all skills.
March 20, 2023 March 27, 2023	<b>Module 3: Speciality Procedures &amp; Monitoring</b> <ul style="list-style-type: none"> <li>• Defibrillation</li> <li>• Cardioversion</li> <li>• Transcutaneous Pacing</li> <li>• ABG</li> <li>• PUMPS</li> <li>• Control-a-Flow</li> <li>• UVC</li> <li>• Urinary Catheterization</li> <li>• Ostomy Care</li> <li>• NG/OG Tubes</li> <li>• <a href="#">See Moodle for quizzes details</a></li> </ul>
April 3, 2023	<b>Review:</b> <ul style="list-style-type: none"> <li>• Modules 1-3</li> </ul>

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April 11-21, 2023

**TECH WEEK**

Skills stations for demonstrations, discussion, and practice  
Student will demonstrate skills outlined in Advanced Skills Booklet  
for 2<sup>nd</sup> sign off of all skills.

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**May 1, 2023**  
**0900-1015**

**FINAL EXAM**

- **Modules 1-3**

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May 15-19, 2023

**TECH WEEK**

Skills stations for demonstrations, discussion, and practice  
Student will demonstrate skills outlined in Advanced Skills Booklet  
throughout HFS that encompass the full scope for an ACP to  
prepare for clinical application.

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## 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.

<b>Minimum Requirements and Recommended Upgrades for Windows (preferred system) and Apple devices</b>
These minimum standards are required for a Windows computer/laptop (OS 10 or 11) and a Macintosh (OS 10.14 or above).
<ol style="list-style-type: none"><li>1. Windows 10 Operating System or above</li><li>2. 4GB of RAM. Recommended upgrade to 8GB of RAM.</li><li>3. 10GB+ available hard drive storage space. Note installing Microsoft Office 365 requires 3GB of available hard drive space.<ol style="list-style-type: none"><li>a. Install the Microsoft Office 365 suite (~3GB) *</li></ol></li><li>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.</li><li>5. Windows has built-in anti-virus/malware software. It is essential to install system updates to keep your device secured regularly.</li></ol>
* <a href="#">Microsoft Office 365</a> is free to Keyano students.
Tablets, iPads, and Chromebooks are <b>not</b> 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.

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[Manpreet, Uppal], Instructor

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[Candi, Muise], Chair

Date Authorized

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[Arlene, Starks], Dean

Date Authorized

**Signed copies to be delivered to:**

Instructor