

HUGHES HIGHLAND SHOOTING ACADEMY
RISK ANALYSIS

This document was reviewed and approved by the following HSSA staff:
X Paul Hughes, owner

Activity/Situation/Condition	Hazard Description	Recommended Control
I. General Range Operations A. General	Injuries.	First-aid kits are located at the range, and instructors are certified in first aid and cardiopulmonary resuscitation (CPR), and trained in the handling of gunshot wounds (TCCC). Students are required to inform instructors of pre-existing medical conditions as well as over-the-counter and prescription medications prior to training. Instructors assess all students prior to the day's activities. This assessment will involve the detection of obvious physical or emotional impairment (for example, illness, hangover, alcohol odor, extreme fatigue, belligerence, or insubordination). Students deemed unfit for duty will be referred to Training Academy (HSSA) management in all cases.

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		At a minimum, per HSSA procedure firearms instructors who is trained and currently qualified in CPR/first aid and have specific training on the handling of gunshot wounds will assist in all medical emergency.

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		<p>Training participants must have and wear the following personal protective equipment (PPE) during various training exercises:</p> <ul style="list-style-type: none"> • Approved hearing and eye protection (for all activities) • Knee and elbow pads if needed • Sturdy, non-slip footwear • Brimmed Hat <p>During live-fire training, participants will call "CEASE FIRE" if they observe an unsafe act or condition. Training will not resume until the situation has been resolved.</p>
B. Weather Conditions	Adverse weather conditions affect the instructor's ability to ensure adherence to safety rules.	All personnel are equipped with clothing and protective equipment appropriate to the weather.
B. Weather Conditions	Sunburn.	Participants are advised to use sunscreen, wear brimmed hats, and wear long sleeves to avoid excessive exposure to the sun.
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1. Hot Weather	<p>Heat-related injury:</p> <ul style="list-style-type: none"> • Heat stroke • Heat exhaustion • Heat cramps 	<p>Instructors are trained to recognize symptoms of heat-related illness or injury, and participants are briefed on recognition of symptoms and precaution to take. The firearms instructor is trained and equipped to treat all heat-related injuries.</p> <p>Instructors will consult Heat Index/ Work Rest Regime activities/ Activity Work Levels</p> <p>Rest breaks are taken frequently to allow participants to cool down and drink water. Drinking water is available at training sites, and participants are encouraged to drink</p>

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<p>2. Cold Weather</p>	<p>Cold-related injury:</p> <ul style="list-style-type: none"> • Hypothermia • Frostbite 	<p>frequently. Students may wear "camel back" water-dispensing devices during training.</p> <p>Instructors are trained to recognize symptoms of cold-related injuries, and participants are briefed on recognition of symptoms and precautions to take. The on-site paramedic is trained and equipped to treat all cold-related injuries.</p> <p>Instructors are trained to recognize symptoms of cold injury, and will consult WGBT Index/ Work Rest Regiment activities/ Activity Work Levels, for guidance.</p> <p>Participants are briefed on recognition of symptoms of frostbite and hypothermia and the precautions to take. Rest breaks are taken frequently in heated areas to allow participants to warm up and drink fluids.</p>
<p>3. Precipitation</p> <ol style="list-style-type: none"> a. Rain b. Ice c. Hail d. Sleet e. Snow 	<p>Unsafe walking surfaces cause slips and falls.</p> <p>Shooters are unable to maintain stable footing.</p>	<p>Snow and ice removed from training areas prior to training.</p> <p>Sturdy, slip-resistant footwear issued at student's home site will be worn during training.</p> <p>Sturdy, slip-resistant footwear will be worn during training.</p>
<p>4. Lightning</p>	<p>Electrocution.</p>	<p>Instructors will terminate training if HSSA portable lightning detectors show a lightning strike within 5 miles of the training site. Participants will be moved indoors</p>
<p>5. High Winds</p>	<p>High winds result in unsafe training conditions.</p>	<p>Termination of training, or use of alternate target systems, will be based on instructor's assessment of conditions.</p>
	<p>Participants attempt to fire at targets moved by wind gusts.</p>	<p>Instructors will sound judgement in windy conditions</p>

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	Blowing debris, sand, or dirt distracts participants or causes eye injuries.	Eye protection that meets the requirements of American National Standards Institute (ANSI)/ International Safety Equipment Association (ISEA) Z87.1 – 2010 with side protection is required when on an active range.
	Inability to hear commands.	Instructors use range-mounted or portable public address systems.
	High winds result in unsafe training conditions.	Termination of training, use of alternate target systems, will be based on instructor's assessments

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6. Fires	Persons or property are damaged due to a fire at the HSSA caused by: <ul style="list-style-type: none"> • Smoking • ammunition • Lightning 	HSSA Range Operations provides guidelines for the prevention of, and response to, a fire.. Smoking is only permitted in designated area. Smoking is not permitted inside HSSA buildings or facilities, or in government owned or leased vehicles. Dry chemical fire extinguishers and 5 gallon water extinguishers are located at All HSSA Ranges. Portable lightning detection monitors are available to instructors

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1. Flying objects/debris <ul style="list-style-type: none"> a. Exhaust gases from firearms b. Bullet fragments from steel targets 	Injury to eyes and/or distraction to shooters.	Eye protection that meets the requirements of American National Standards Institute (ANSI) / International Safety Equipment Association (ISEA) Z87.1 – 2010 with side protection is required when on an active range.

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<p>c. Blowing dirt</p> <p>2. Noise</p> <ul style="list-style-type: none"> • Discharge of firearms • Detonation of pyrotechnic or explosive devices 	<p>Damage to hearing.</p>	<p>Hearing protection with a minimum noise reduction rating (NRR) of 26 is required for all participants.</p> <p>Single hearing (fommies) for all live fire training</p> <p>Participants receive training in proper use of earplugs</p>
<p>3. Exposure to lead dust, particles, vapor or other airborne contaminants from the use of ammunition with lead-based primers</p> <ul style="list-style-type: none"> a. Airborne lead contamination b. Surface lead contamination from firearms, in cleaning room or on collected brass 	<p>Chronic or acute exposure of personnel to airborne and surface lead contamination through inhalation, ingestion, or absorption.</p>	<p>Smoking and eating are prohibited while on the firing line.</p> <p>All firearms training participants are briefed on good personal hygiene practices during and after firearms training.</p> <p>Participants are instructed to use gloves and/or barrier cream while cleaning weapons in the cleaning room.</p> <p>The HSSA uses only jacketed ammunition for live fire on the square ranges.</p>
<p>4. Solvents and Lubricants</p>	<p>Injury to eyes.</p> <p>Irritation to exposed skin or respiratory irritation.</p>	<p>Eye protection is provided in weapons cleaning rooms and must be worn. Eye protection must comply with the requirements of ANSI/ISEA Z87.1-2010. Eyewash stations are located in cleaning rooms.</p> <p>Gloves and/or hand barrier cream are provided in weapons cleaning rooms and must be worn/used.</p>
<p>5. Facades/Barricades</p>		

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a. Structural stability	Injury results from deterioration of structural material.	HSSA staff members regularly inspect facades and barricades. If damaged, they are removed from service and repaired. Instructors inspect facades and barricades prior to training to ensure structural integrity.
b. Erecting/moving	Hands receive cuts, scraps, and splinters from contact with structures.	Gloves must be worn by personnel who move barricades and other structures.
c. Physical hazards	Student receives injury from cacti, snakes, and other elements associated with the natural environment. Student is hit with ricochet from steel target, resulting in injury.	Instructors inspect course prior to training to minimize possible associated hazards. Instructors identify hazards to students in safety briefing. Instructors inspect Steel courses prior to training and remove tripping or ricochet hazards. Students and instructors wear approved hearing and eye protection and sturdy footwear when negotiating any course.

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II. Firearms-Related Activities		
A. Any Activity Involving Firearms	Generic hazards.	All firearms training will be conducted in accordance with provisions of HSSA , and approved lessons, exercises, and training activity plans.

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	Intentional shooting or an unauthorized discharge results in an injury.	Certified instructors are taught to recognize potential behavioral problems. All firearms training shall be conducted at a site approved by HSSA LPs Basic firearm safety training is required before personnel are allowed on the range, and is important in minimizing unauthorized discharges. Instructors and range safety officers ensure that all range safety rules are followed. An approved risk analysis is required prior to any firearms training.

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		<p>Firearms instructors must:</p> <ul style="list-style-type: none"> • Be certified by the HSSA: • Provide training in accordance with approved lesson plans, training or exercise plans, standard operating procedures; and • Comply with instructor-to-shooter ratios found in <u>HSSA</u>. <p>Participants must:</p> <ul style="list-style-type: none"> • Be qualified to undergo all aspects of the training curriculum.
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Firearms Safety	General	<p>All activities will be conducted in accordance with the Four General Firearms Safety Rules defined in <u>HSSA</u>:</p> <ol style="list-style-type: none"> 1. All firearms are always loaded. 2. Never let the muzzle cover anything you are not willing to destroy. 3. Keep your finger off the trigger until your sights are on the target. 4. Be sure of your target. <p>All weapons will be holstered, slung, in an approved carry, in the low ready, or on target during any firearms training. Instructor proximity to students allows ability to respond to unsafe conditions. Instructor will stop training at any time to prevent injury.</p> <p>Rifles will be in a rifle rack and under an instructor's observation when not in use.</p> <p>Students will clear weapons in the clearing barrel prior to entering a cleaning room. Instructors will verify weapons are safe and clear. No live ammunition of any caliber will be taken into a cleaning room.</p> <p>Violation of any of the General Firearms Safety Rules will be grounds removal from training.</p> <p>The berms on the range are angled to minimize the possibility of ricochets traveling up range. Hard surfaces down range are minimized or guarded by berms and generally limited to the flat, concrete firing lines.</p>

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		Ricochets from rounds striking the firing lines will travel down range. The lead instructor/RSO controls the movement of personnel down range.
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B. Basic Training Activities		
1. Equipment Selection		
a. Firearms	Firearms fail or malfunction, causing injury.	HSSA must approve all firearms used during HSSA sponsored training.
b. Ammunition	Ammunition fails or malfunctions, causing injury.	Only high-quality, factory-new ammunition will be used for live fire training and qualification.
c. Tactical equipment	Tactical equipment fails or malfunctions, causing injury.	Tactical equipment shall provide trainees with the ability to move in a tactically safe manner under all expected environmental conditions.
2. Equipment inspection		
a. Firearms	Firearm fails or malfunctions, causing injury.	HSSA inspect all HSSA firearms that are issued for training
b. Ammunition	Ammunition fails or malfunctions, causing injury.	Ammunition that is dropped is inspected for defects by an instructor before use. Damaged or suspect ammunition is taken out of service and properly disposed of.
c. Tactical equipment	Tactical equipment fails or malfunctions, causing injury.	Holsters, magazines, pouches are inspected for serviceability. Defective equipment will not be used.
a. Loading/unloading	Unauthorized discharge resulting in injury.	<p>Loading/unloading is supervised by firearms instructors.</p> <p>Weapons are pointed safely downrange or into/at a bullet containment device.</p> <p>Shooters must keep their trigger fingers straight along the frame of the weapon while loading/unloading.</p>

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		<p>After unloading, a firearms instructor verifies that all firearms are unloaded and safe prior to leaving the firing line. Instructors will ensure no loaded weapons or ammunition are allowed in cleaning rooms.</p> <p>Students will clear weapons in a cleaning barrel prior to entering a cleaning room. Instructors will verify that weapons are safe and clear.</p> <p>No live ammunition of any caliber will be taken into a cleaning room.</p> <p>Participants are trained in proper firearms assembly, disassembly, and manipulation skills during basic firearms training.</p> <p>Participants are trained in proper firearms manipulation skills during basic firearms training. Specific training is provided for left- and right-handed shooters.</p> <p>Participants are trained in proper unloading technique for weapons. Close instructor supervision ensures rapid response to unsafe conditions.</p>
<p>Activity/Situation/Condition</p>	<p>Hazard Description</p>	<p>Recommended Control</p>
<p>b. Dry practice</p>	<p>Unauthorized discharge results in injury.</p>	<p>Dry practice will be governed by approved HSSA lesson plans.</p> <p>Dry practice shall be conducted on a live fire range or in an approved area, and only under the supervision of a firearms instructor.</p>

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<p>4. Shooting at single, fixed, non-reactive paper or cardboard targets</p>	<p>Shooting results in injury.</p>	<p>Firearms training will be governed by approved HSSA lesson plans, exercise plans, and training activity plans. Instructor proximity to student provides ability to respond rapidly to unsafe conditions. Instructor may stop training anytime to prevent injury. Instructors inspect areas behind targets prior to training. Objects that may cause bullet splatter or ricochet are removed.</p>
<p>a. Proximity of other shooters</p>	<p>Shooter is hit with hot brass ejected from weapon and reacts in a manner that violates safety rules.</p>	<p>Brimmed hats, long-sleeved shirts with sleeves rolled down and collar buttoned will be worn when shooting. Students should be spaced far enough apart to minimize likelihood of injury. Students taught to always keep muzzles pointed safely down range and fingers off the trigger.</p>
<p>b. Assuming different firing positions</p>	<p>Assuming the squatting, kneeling, and prone positions results in physical injury.</p>	<p>Safety glasses with side shields will be issued to students. Students requiring prescription glasses will bring their safety glasses with side shields with them. Students cautioned to keep firing line clear of stones, crass, and hardware such as magazines. Use of knee and elbow pads is required. Students practice with unloaded weapons until they can demonstrate the ability to assume the positions safely.</p>
<p>c. Shooting from barricade</p>	<p>Muzzle behind barricade causes flying debris that may cause injury.</p>	<p>Students receive safety briefing prior to start of exercise. Student receives training on firing from behind barricades. Instructor proximity to student ensures good muzzle control and provides ability to respond to unsafe condition. Instructor will stop training at any time to prevent injury.</p>
<p>5. Firearm or ammunition malfunction</p>	<p>Injuries – General.</p>	<p>Firearms training will be governed by approved HSSA lesson plans and Training Activity Plans.</p>

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<p>a. Firearm malfunction clearance</p> <p>b. Ammunition malfunction</p>	<p>Finger on trigger results in unauthorized discharge, resulting in injury if muzzle is not pointed safely downrange.</p> <p>Squib-round projectile lodged in barrel causes barrel to rupture if next round is fired, resulting in injury.</p>	<p>Close instructor supervision will ensure that:</p> <ul style="list-style-type: none"> • Fingers are kept off trigger until sights are on target. • Muzzle is not allowed to cover unintended targets. <p>Student practice with unloaded weapon until ability and knowledge to clear malfunctions safely has been demonstrated. Only new ammunition from reputable <u>manufacturers</u> will be used.</p> <p>Personnel are trained to perform routine clearing of their weapons and to recognize and clear routine malfunctions.</p> <p>Students are trained to immediately stop shooting in the event of a squib round.</p>
<p>6. Advanced training activities involving multiple, moving, reactive, or steel targets.</p> <p>a. Target systems</p>	<p>Injuries – General.</p> <p>Injury results from ricochet.</p>	<p>Firearms training will be governed by HSSA lesson plans or Training Activity Plans. .</p> <p>The HSSA instructor staff or Range Master will regularly inspect and maintain target systems. Instructors will inspect targets prior to training. Ricochet hazards behind target line will be removed.</p> <p>Persons on firing line will wear brimmed hats when firing on steel targets.</p> <p>Instructors will inspect steel targets prior to training. Range personnel will regularly inspect and maintain steel targets. Target inspection, placement, and engagement will be in accordance with HSSA <i>Use of Bullet Traps and Steel Target</i>. Any steel target in question will not be used. Where appropriate, use of approved non-lead, frangible ammunition against steel targets reduces possibility of ricochets.</p>
<p>Activity/Situation/Condition</p>	<p>Hazard Description</p> <p>Injuries – General</p>	<p>Recommended Control</p> <p>Shooting involving movement will be conducted in accordance with approved lesson plans.</p>

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<p>b. Shooting on the move and shooting and moving</p>	<p>Student moves forward of other students on line or stops during forward movement.</p>	<p>Instructor-to-shooter ratios required by <u>HSSA</u> will be maintained during shooting on the move and shooting-and-moving training. Instructor's proximity to students provides ability to respond to unsafe acts.</p>
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Activity/Situation/Condition	Hazard Description	Recommended Control
<p>a. Use of training and weapons</p>	<p>Personnel injury if live weapons are mixed with training aids or ESS weapons that are not authorized for use at the HSSA.</p>	<p>Training aid weapons are authorized on the HSSA ranges. Training aids, including mock firearms and simulated edged weapons with the appearance and handling characteristics of a real weapon, must be readily distinguishable from an actual weapon. These mock weapons must be comprised of a homogenous material incapable of accepting any form of magazine, feeding device, ammunition, or projectile, and are readily identifiable from a distance or in low-light conditions from live firearms or actual edged weapons. Training aids must be distinctly color-coded for identification purposes and may be used in conjunction with live fire training activities where the use of a training aid mitigates risk. All possible participants must be fully briefed prior to use. An example of live fire training includes, but is not limited to, ballistic breaching training, room clearing or weapon retention techniques. Training aids can be used when they present a safer training environment than using live weapons and must be incorporated into a risk analysis which addresses their use. These training aids may be used in either a classroom or live fire range environment. They may be stored separately in conjunction with live fire weapons.</p>