This course is intended to train employees to safety operate utility-terrain vehicles (UTVs), which are motorized off-highway vehicles. The UTV is intended for recreational use and work. While working for Spartan Race a UTV is to be used only as a work vehicle.

DIFFERENCES BETWEEN UTVS, ATVS, AND HIGHWAY VEHICLES.

A utility-terrain vehicles is a motorized off-highway vehicle designed to travel on four or more tires and carry one or more persons. Before employees use these vehicles, it is critical they understand how to operate them safely. Between January 2003 and August 2009, the Consumer Product Safety Commission reviewed 181 recreational off-highway incidents involving UTVs. Of these incidents, 161 fatalities and 152 injuries were reported. In some of the more serious UTV accidents have included rollovers due to overloading of the UTV cargo bed, altering the cargo bed configuration thereby changing the vehicle’s center of gravity, mounting non-baffled tanks to the UTV cargo bed, attempting to climb grades exceeding the capability of the loaded UTV, and operating UTVs on side slopes beyond the vehicle’s
design specifications. In some cases occupants were not wearing their seatbelts and were thrown from the vehicle. Those who were belted in were protected by the rollover protection system (ROPS).

FEATURES OF UTILITY-TERRAIN VEHICLES

Several different companies manufacture UTVs with these Features:
- Maximum speed capability greater than 35 miles per hour
- Width less than 80 inches
- Key-operated ignition switch or engine stop device
- Two-wheel or all-wheel drive
- Side-by-side seats
- Parking brake
- Headlights
- Low pressure tires
- Handholds for passengers
- Tail lights
- Rollover protection system

A rollover protection system (ROPS) is a frame of steel pipe above and around the cab. This system is designed to protect occupants from being crushed during a rollover. A cab enclosure is not a ROPS system unless it is specified in the owner’s manual or on the ROPS itself that it meets SAE J2194 or ES 519 standards when combined with properly fastened seatbelt, are 99 percent effective in preventing fatalities and serious injuries in rollovers.

UTVS COMPARED TO HIGHWAY VEHICLES

UTVs and highway vehicles have several similarities that help the operator learn how to use the vehicle. Despite these similarities, operators of UTVs should not drive a UTV like they would a highway vehicle UTVs are not street legal in all states and will handle differently than highway vehicles. A UTV has low pressure off highway tires, a high center of gravity and a smaller wheel base that makes it less stable than highway vehicles. A UTV is more prone to roll or flip over if driven too fast or steered abruptly.
PRE-RIDE INSPECTION

A pre-ride inspection must be performed before an operator uses a UTV. This inspection ensures the UTV is in proper operating condition. Use the inspection T-CLOC to check:

T- Tires and wheels: Check the air pressure and condition of the tires. Check the rim bolts, axle, nuts and wheel bearings.

C- Controls and cables: Locate and check the operation of the controls. Check the brake pedal adjustment and fluid level. Inspect the shifter.

L- Lights and electronics: Check the lights, check the ignition switch and engine stop switch. Ensure all the gauges are functional.

O- Oil, fuel, fluids, and air filter: Check the oil, fuel, and coolant levels inspect the machine for leaks. Ensure that the air filter is clean.

C- Chassis, suspension, driveshaft, and external equipment: Check the cargo boxes and racks for cracks and ensure that the fasteners are tight and secure. Check the drive shaft for oil leaks or missing nuts and bolts. Shake the chassis and suspension system to be sure nothing is loose and that the shocks are operating properly. Check the cargo boxes and racks for cracks and ensure that the fasteners are tight and secure. Check the drive shaft for oil leaks or missing nuts and bolts. If the UTV has a winch, inspect it for damaged cables, fairleads, hooks, and controls. If the UTV has a trailer hitch, make sure it is secure and the proper size and capacity. Finally, ensure that toolboxes and other equipment are in good condition, properly loaded, and secure. If the UTV has a mounted piece of industrial equipment, ensure that the regional engineer or designee has approved the addition.
UTV Guidelines

TRANSPORTING UTVS

UTVs must be transported on a trailer. They cannot be transported in the bed of pickup trucks. A tilt-bed trailer, especially designed for hauling off-highway vehicles, is the best unit for hauling these machines but others may be used.

All trailers must be in good condition and have the proper gross vehicle weight rating (GVWR), the trailer’s maximum allowable weight when loaded. The weight of your trailer and your load must never exceed the trailer’s GVWR. To determine the weight of your trailer and load, add the following:

- Trailer curb weight (empty)
- UTV gross vehicle weight
- Equipment or cargo weight
- The operator’s weight

To hook a trailer to a truck or other towing vehicle:

- Align the trailer to the hitch.
- Crank the tongue of the trailer down onto the hitch.
- Lock the hitch into place and insert the safety pin.
- Connect the safety chains in a crisscross fashion.
- Attach the breakaway cable, while keeping it separate from the safety chain.
- Raise the jack all the way up and secure its handle.
- Connect the electrical cord from the vehicle to the trailer.
- Inspect all trailers before use. Inspect the electrical system, brakes, tires, axles, frame, and safety security chain.

RAMPS

Ramps must be rated to support the combined weight of the UTV, operator, equipment, and cargo. Ramps must be fabricated of aluminum or welded steel and have a high traction surface comprised of closely spaced crossed members or mesh. Wooden ramps are not permitted.

The ramp can be one piece, two pieces, rigid, or folding so long as the hinges were installed by the manufacturer. One piece and bifold or trifold ramps must be at least 46 inches wide. Wider UTVs require a wider ramp. For two-piece ramps, each ramp must be at least 10 inches wide. Ramps are recommended to be 7 feet long. The minimum length is 6 feet.

When attaching a one-piece ramp, center it on the trailer. For two-piece ramps, place each ramp parallel with the tires of the UTV centered on the ramps. In either case, ensure that the ramp is level and the angle is as low as possible to reduce the risk of injury. To lower the angle of the ramp, use a loading platform or place the back tires of the trailer into a depression.
Once the ramp is in place, secure the ramp to the trailer with two tie down straps, chains, steel cables, or mechanical fasteners that are taut with no slack. These devices must be able to support the weight of the ramp, machine, cargo, and rider.

LOADING AND UNLOADING UTVS

Wear appropriate PPE and ask someone to be a spotter when loading a UTV.

Ask all passengers to get out. Remove any portable cargo or equipment and empty any liquid tanks to remove weight from the back of the UTV. If heavy cargo or tanks cannot be emptied or removed safely, secure sandbags or other heavy objects to the front of the UTV to equalize the load. If the load cannot be balanced, the UTV can be winched onto the trailer without an operator on board.

A winch can also be used to load a disabled UTV. Before winching, operators should be trained and fully aware of serious hazards associated with winching operations. Appropriate PPE must be worn during winching operations.

To load a UTV, fasten your seatbelt and remain seated. Injuries are more likely to be serious if you are thrown from the machine. Apply the accelerator pedal smoothly. Listen and follow the spotter’s directions. Climb the ramp at a low speed. Too much speed or sudden acceleration may cause the UTV to overturn, slam into the front of the trailer, or overshoot the front of the trailer.
When a UTV has been loaded, turn off the ignition, remove the key, put the transmission in the recommended gear (in the owner’s manual), and set the parking brake. Secure the UTV to the trailer with four tie downs: two in front and two in back. Secure the tie downs to the trailer’s cargo anchors and the UTV frame tubing (not the cargo racks) unless the owner’s manual indicates otherwise. The tie downs will prevent the machine from moving while it is being transported. If a commercially manufactured restraining device is available, only two tie downs may be used if the use is documented in the JHA. All tie downs must be ratchet type, in good condition, free of frays and splices, and have a minimum weight capacity of 2,500 pounds. Do not use knotted straps or ropes to secure a UTV.

To unload a UTV, apply the accelerator pedal just enough to start the UTV down the ramp. Allow the UTV to roll down the ramp using light brake pressure to control the speed. Hard braking when descending a ramp could cause the UTV to flip over.

HAZARDOUS MATERIALS

When transporting or using hazardous materials, follow all local, State, and Federal guidelines and meet the specifications in the guides.

PREWORK SAFETY QUESTIONS

Before operating a UTV, consider these safety questions:

• Is a UTV the appropriate vehicle for the work project or activity?
• Do you have the experience and training needed to operate the UTV?
• Do you understand the capabilities and limitations of the UTV?
UTV Guidelines

- Has the UTV had its annual maintenance inspection by the manufacturer, a qualified mechanic, or a fleet manager?
- Has the UTV been modified in any way? If so, are the modifications commercially available add-ons?
- Do you know how to load, unload, and transport the UTV?
- With the cargo, does the UTV exceed its gross vehicle weight rating (maximum allowable weight when loaded)?
- Have you reviewed the emergency evacuation procedures?
- Have you planned for the expected weather conditions?
- Do you and all passengers have appropriate PPE?
- Do you have a communications device?
- Have you completed the preride inspection?

PASSenger RESTraints

If available, all operators and passengers should use provided restraints such as seatbelts. Do not exceed the designed number of occupants.

HELMETS

UTV operators and passengers shall wear a helmet that meets the requirements of the Department of Transportation, ANSI Z90.1, or Snell Memorial Foundation. The helmet must be worn with chinstrap properly secured. Helmets must be replaced as recommended by their manufacturer or sooner if a helmet is involved in an impact-related accident or shows significant wear or damage. Hardhats are not acceptable for operating a UTV. Shorty helmets are not acceptable for operating a UTV because they do not offer protection for the upper part of your neck or the lower portion of your head.

TOWing WITH A UTV

Consult with the owner’s manual and do not exceed the load capacity of the UTV. The capability of a UTV changes significantly when a trailer is attached to it. Users should exercise additional caution when using a trailer on a UTV.
STARTUP

Consult with the owner’s manual before operating a UTV. Make sure that the manufacturer’s recommended maintenance and service have been performed. If a UTV has the option for two-, four-, or six-wheel drive, determine which setting is best suited for the trail conditions and terrain. Steering is easiest in two-wheel drive, but a UTV generally handles rough terrain and obstacles better in four- or six-wheel drive. Inexperienced operators may need to practice their driving skills in two-, four-, or six-wheel drive before knowing which setting is right for the conditions.

Before starting a UTV, make sure the parking brake is engaged and the transmission is in “neutral” for manual transmissions or “park” for automatic transmissions. Turn the lights on to increase visibility of the UTV.

To start some gas-powered UTVs, a key is inserted and turned to the “on,” “run,” or “start” position (figure 42). On other models, a “start” button may have to be pushed after the key is turned “on.” For machines with a carburetor, the choke will have to be closed for starting and then opened to run. For many electronic UTVs, the machine is started simply by turning the engine stop switch to “run” or “on.”

To get going with an automatic transmission, press the brake pedal, shift into gear, and release the parking brake. Press the accelerator pedal slowly.

SIPDE Process
The SIPDE process is a system taught in driver education classes. SIPDE stands for:

S—Sweep, Search, and Scan: The operator must continually glance from side to side and scan the surrounding area for hazards that may affect the operator, the passengers, or the operation of the machine.

I—Identify: The operator must be able to identify whether an object, animal, or situation poses a hazard to the operator, the passengers, or the operation of the UTV.

P—Predict: The operator must be able to predict whether the identified hazard will affect the operation of the machine, operator, or passengers. Specifically, the operator must predict the worst-case scenario and determine possible courses of action.

D—Decide: The operator must choose a safe course of action that will mitigate the hazard.

E—Execute: The operator
TRAIL ETIQUETTE

When operating a UTV, observe proper trail etiquette. When in a group, travel in single file and keep a safe distance from the UTV in front of you.

When you encounter other UTV or ATV users, stay to the right and pass slowly. Slow down and yield the right of way when you encounter hikers and bicyclists. When you encounter horses, slow down, pull over, and stop the engine to avoid spooking the animals.

EMERGENCY STOPS

The best way to avoid emergency stops is to travel at a safe speed. The faster the UTV is going, the longer it takes to stop. During an emergency stop, press the brake pedal firmly while continuing in a straight line. Turning or swerving during an emergency stop may flip the UTV.

TURNING

When approaching a turn, apply the brake pedal to slow down. Turn the steering wheel just enough to make the turn. Do not turn at high speeds or turn abruptly, because you may flip the UTV. If you need to swerve to miss an object in the trail, slow down and move the UTV smoothly to the side. Do not turn sharply or swerve so far that the UTV leaves the trail. If the UTV goes onto the shoulder of the trail, do not sharply overcorrect. Gently turn the steering wheel until the machine is back on the trail.

HANDLING SLOPES

Check the UTV owner’s manual for each machine’s slope capability because each vehicle may be different. Even though UTVs are far more stable than ATVs, they can still flip or roll over when you exceed the maximum slope capability of the machine. Since operator experiences, cargo loads, terrain, and trail conditions all affect the capabilities of a UTV on slopes, use good judgment when deciding whether and how to travel on slopes.

Whenever possible, avoid traveling across a slope. The best way to handle a slope is to climb straight up, descend straight down. Never attempt to turn around in the middle of the slope. Back straight down if you can’t keep going straight up.
If you have to travel across a slope, assess the terrain and choose a path with the least grade. Slow down, especially if the terrain is uneven or has lots of dips and bumps. Be extra careful when encountering rough terrain, such as ruts, rocks, or small logs. A rock on the uphill side of a slope or a dip on the downhill side can tip the UTV enough to flip it over. Never operate a UTV loaded to its carrying capacity on more than a slight slope or on a slope with very rough terrain. Be alert for shifting cargo. Liquids are heavy and can shift quickly to the downhill side of a UTV or slosh back and forth, instantly moving the center of gravity of a UTV closer to its tip over point.

If you encounter slopes while operating a UTV and you are unsure whether or not they are within your machines capabilities, get off and walk the route. Slopes may be steeper than they appear, especially in rough terrain. If the slope is too steep to traverse, back up and find another route.

ENCOUNTERING OBSTACLES

Obstacles, such as bumps, dips, rocks, or logs, may have to be crossed when you’re operating a UTV. Whenever possible, remove the obstacle or go around it.

If you have to cross an obstacle, maintain a firm grip on the outside of the steering wheel. Do not place your fingers in the steering wheel because the wheel may twist suddenly. Slowly approach the obstacle straight on. When the front tires contact the obstacle, slightly increase the throttle to maintain momentum until the obstacle has been climbed or crossed.

CROSSING WATER AND STREAMS

When crossing water, assess the situation before proceeding. Do not cross streams that are deep or swift. Make sure that you can see the bottom of the stream and that the water doesn’t become deeper part way across. Check the stream’s bottom for mud, boulders, or submerged obstacles. Check the forcefulness of the current. If the current has to be counteracted to maintain balance and direction of travel, the stream is too strong to cross. If a stream is not safe to cross, back up and find another.

FINGER AND THUMB SAFETY

Do not place your thumbs or fingers in the steering wheel of your UTV because the wheel may twist suddenly and injure them.
CROSSING ROADS

When you cross a road, come to a complete stop at the intersection and look both ways. Do not cross roads where visibility is restricted. Once the intersection is free of traffic, drive across the road at a safe speed.

PARKING

To park a UTV, press the brake pedal until the machine comes to a stop, shift the transmission into the recommended gear by the owner’s manual, engage the parking brake, turn off the engine, and block the tires if you are on a slope. Follow the manufacturer’s instructions for shutting off the fuel, if you are parking for longer than 1 or 2 days.

INSPECTION AFTER OPERATION

After using a UTV, perform an inspection:
- Examine the vehicle for damage or leaks.
- Check and clean the air filter.
- Check the oil level and coolant levels for changes.
- Check the tires for damage.
If damage is found, report it to a supervisor or fleet manager and arrange for a qualified mechanic to make the repairs.

ACCIDENTS

After an accident:
- Seek medical attention, if needed.
- Notify your supervisor.

ROLLOVERS

During a rollover, keep your arms, legs, and head inside the vehicle. Do not try to stop the rollover or bail out of the vehicle. Severe injury to arms and legs or even death may be the result. The UTV rollover protection system and a properly fastened seatbelt give you a good chance of surviving a rollover.