

Utility Task Vehicle (UTV) Driver Instructor Course

Train-the-Trainer
Total Training Package



Michael Pepin
San Diego County Sheriff's Department
In Service Training

Master Instructor Certification Course #11
Sam Reed, Facilitator
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November, 2017



Side by Side (UTV) Instructor Course



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Executive Summary

Auto-related deaths are a top cause in line of duty deaths for law enforcement officers across the nation. According to the Officer Down Memorial Page (ODMP), there have been 2370 officer line of duty deaths relating to automobile crashes since 1906 (ODMP, 2017) and the number continues to grow. Agencies and law enforcement trainers have a duty to provide effective training to peace officers in attempt to reduce the amount of preventable line of duty deaths attributed to automobile collisions. While advancements in vehicle technologies are made and the variety of vehicle formats increase law enforcement must adjust training practices. Utility Task Vehicles (UTVs) are one such advancement that has created a gap in training.

This 32-hour course is designed as a train the trainer course to create UTV Instructors capable of facilitating the UTV Basic Driver Course to line personnel. The content within this course was developed through interviews with subject matter experts, reviews of related literature, and an online survey completed by several individuals with a wide range of experience operating UTVs. The course contains the following topics related to UTV instruction and operation:

- Equipment inspections
- Closed range cone exercises
- Vehicle recoveries
- Open trail exercises
- Navigating by GPS
- Adult learning concepts
- Student instructor facilitation

The course will employ a number of interactive learning activities in an open field environment to gauge a student instructor's ability to operate a UTV and provide instruction to new UTV drivers. Following successful completion of the UTV Driver Instructor Course, students will be supplied with the course documents needed to create a customized course for their respective agencies.



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Hourly Distribution Schedule

Day 1	Day 2
0700-0800 Orientation Pepin	0700-0800 Student Lead Facilitation- Pre-Shift Vehicle Inspections
0800-0900 PPE, Inspections, and Vehicle Familiarization Hedgecock	0800-1000 Student Lead Facilitation- Closed Range Course Exercises
0900-1030 Close Range Course Exercises Hedgecock/Pepin	1000-1100 Global Positioning Devices (GPS) Hedgecock/Pepin
1030-1100 Vehicle Recoveries Pepin	
Lunch 1100-1200	Lunch 1100-1200
1200-1330 Open Trail Exercises Hedgecock/Pepin	1200-1330 Student Lead Facilitation- Open Trail Exercises
1330-1530 Open Trail Drive Hedgecock/Pepin	1330-1430 GPS Navigation Pepin
1530-1600 Post-Shift Equipment Inspections and Closing Pepin	1530-1600 Post-Shift Equipment Inspections and Closing Pepin



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Day 3	Day 4
0700-0730 Student Lead Facilitation- Pre-Shift Vehicle Inspections 0730-0830 Adult Learning Concepts Pepin 0830-1030 Student Lead Facilitation- Closed Range Course Exercises	0700-0800 Student Instructor Lead Orientation 0800-0900 Student Instructor Lead Inspections and Vehicle Familiarization 0900-1100 Student Instructor Lead Close Range Course Exercises
Lunch 1030-1130	Lunch 1100-1200
1130-1300 Student Lead Facilitation- Open Trail Exercises 1300-1500 Student Lead Open Trail Scouting 1530-1600 Post-shift Equipment Inspections and Basic UTV Driver Course Preparation Pepin	1200-1330 Student Instructor Lead Open Trail Exercises 1330-1530 Student Instructor Lead Open Trail Drive 1530-1600 Post-Shift Equipment Inspections, Certificates, and Closing Pepin

Course is 32-hours in length. Instructors are subject to change based upon availability.
Instructor: M. Pepin **Location:** San Diego County Sheriff's Department- In-Service Training
 10440 Black Mountain Rd, San Diego, CA 92126



Side by Side (UTV) Instructor Course



Module 1

Instructor: Michael Pepin/Richard Hedgecock

Revised: 10/30/2017

Course Goal: To create UTV Driver Instructors capable of facilitating a Basic UTV Driver course to new UTV operators with a focus on vehicle familiarization and the safe and morale operation of a UTV.

Module Goal: Students will learn the impact properly maintained equipment and vehicle familiarization have on the safe operation of a UTV.

Module Total Time: 1 hour

Learning Objectives: Students will understand the importance of wearing proper Personal Protective Equipment (PPE), conduct in-depth vehicle inspections, and examine the deployment uses for UTVs in the field and the dangers associated with the identified uses.

Resources Needed: Flip chart, pack of markers, (3) 3' 1X2 sticks, air compressor, tool box, fuel can, and Learning activity#1- UTV Familiarization and Inspection Checklist handouts.

Module Summary: This module opens with discussions regarding PPE and the importance of adhering to legislative mandates, policy and procedure, and manufacturer recommendations to increase personal safety by actively mitigating the potential for injury. Students will then conduct in-depth vehicle inspections and make any adjustments or repairs needed to ensure the UTVs are field ready. Students will participate in discussions regarding the importance of vehicle inspections, various features on the vehicles, and the dangers of operating a vehicle one is unfamiliar with. Students will also analyze the assorted uses for UTVs in the field and outline the associated dangers with the named uses.

Content	Instructor Notes
<ul style="list-style-type: none"> • Welcome • Staff Introductions • Training Area • Roster <p>I. Equipment, Inspections, and Familiarization</p> <p>A. Personal Protective Equipment (PPE)</p> <ol style="list-style-type: none"> 1. Manufacturer requirements <ol style="list-style-type: none"> a) Helmet 	<p><u>Introduction and reflection:</u></p> <p>Explain to students the overall course goal is to increase driver safety. Automobile related deaths are a leading cause of line of duty deaths across the nation and many the deaths are preventable. Instructors will personalize the course goal during the introductions and tell students what their individual goal for the course is. Students will then introduce themselves with the</p>



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<ul style="list-style-type: none"> b) Eye protection c) Gloves d) Boots e) Long pants 2. Department requirements <ul style="list-style-type: none"> a) Vary by department b) Should follow manufacturer guidelines 3. Failing to wear PPE [1] <ul style="list-style-type: none"> a) Injuries associated with no PPE b) Potential for death c) Civil liability d) Violation of department policy 4. Law enforcement and PPE <ul style="list-style-type: none"> a) Lack of seatbelt use <ul style="list-style-type: none"> (1) Cannot exit quickly (2) Fear of ambush (3) Ejection from vehicle b) Lack of helmet use <ul style="list-style-type: none"> (1) Too hot in certain conditions (2) Lack of visibility (3) Difficult during use of force c) Changing the culture [2] <ul style="list-style-type: none"> (1) Enforcing good habits (2) Instructional liability (3) Reducing line of duty deaths B. Pre-shift vehicle inspections [3][4] <ul style="list-style-type: none"> 1. Purpose of inspections <ul style="list-style-type: none"> a) Determining vehicle operational ability b) Noting deficiencies c) Documenting damages 2. Procedure for inspections <ul style="list-style-type: none"> a) Tires b) Controls c) Lights d) Oil and fluids e) Chassis and accessories 3. Vehicle familiarization <ul style="list-style-type: none"> a) Vehicle dimensions b) Body overhang c) Determining angles <ul style="list-style-type: none"> (1) Approach angle 	<p>following format:</p> <ol style="list-style-type: none"> 1. Name 2. Agency 3. Assignment 4. UTV experience 5. Purpose for attending the course <p>As students provide their individual purpose, create a list of the purposes and post them for all to view once all students have answered.</p> <p>[1] ASK: What dangers are associated with failing to wear PPE while operating a UTV and what are the potential affects those dangers have on vehicle occupants and the community the occupants serve?</p> <p>[2] ASK: If we as a whole recognize the dangers of not wearing PPE, why do policies and procedures exist that do not require the use of PPE while operating UTVs?</p> <p>[3] ASK: Why is conducting a pre-shift vehicle inspection important and what are the consequences of failing to conduct an inspection?</p> <p>[4] RUN: Learning activity#1- UTV Familiarization and Inspection Checklist. Provide students with learning activity handouts, blue painters tape, and black permanent markers. As students conduct their inspections and label the items on the checklist, allow time for adjustments as needed.</p>
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Side by Side (UTV) Instructor Course



<ul style="list-style-type: none">(2) Ramp over angle(3) Departure angled) Framee) Tiresf) Wheelsg) Suspensionh) Rollover Protection System (ROPS)i) Occupant Retention System (ORS)j) Seatingk) Handgripsl) Individual vehicle features <p>C. UTV operational safety concerns and application [5][6]</p> <ul style="list-style-type: none">1. Rollovers<ul style="list-style-type: none">a) Speedingb) Turning radiusc) Driving surface and traction2. Equipment storage<ul style="list-style-type: none">a) Higher center of gravityb) Weightc) Securing cargod) Transporting liquids3. Environmental factors<ul style="list-style-type: none">a) Civilians and animals<ul style="list-style-type: none">(1) Parks(2) Beaches(3) Desert(4) Maintained trails(5) Special eventsb) Trail availabilityc) Weatherd) Time of day	<p>[5] ASK: What safety concerns are associated with operating a UTV?</p> <p>[6] ASK: How can failing to become familiar with UTV safety concerns affect UTV occupants?</p>
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Side by Side (UTV) Instructor Course



Learning Activity Summary #1 - *UTV Familiarization and Inspection Checklist*

Purpose:

This activity is designed to allow the students to conduct an in-depth vehicle inspection while evaluating their knowledge of UTVs.

Description:

Prior to beginning the activity divide class into pairs. Provide students the Learning Activity#1- UTV Familiarization and Inspection Checklist handout, blue painters tape and permanent markers. Students may use any materials available to them as a reference. While students are completing the learning activity, allow time for adjustments and repairs to be made to the UTVs as needed. Once all items have been identified and labelled, lead a class discussion pointing out each item to ensure students are aware of the item and its purpose or definition.

Key Learning Points:

- The importance of conducting a pre-shift vehicle inspection
- Dangers associated with failing to conduct a vehicle inspection
- The location and purpose/definition of each item

Time: One hour



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UTV Familiarization and Inspection Checklist

Divide into pairs and conduct an in-depth vehicle inspection of your UTV. Using your knowledge of UTVs, the vehicle's owner's manual, or smart phones, identify and label each of the below items using the supplied tape and markers. Once all items have been identified and labelled be prepared to discuss each item and its importance in relation to the safe operation of a UTV.

Accelerator	<input type="checkbox"/>	Oil	<input type="checkbox"/>
Approach angle	<input type="checkbox"/>	Overall length	<input type="checkbox"/>
Bed	<input type="checkbox"/>	Parking brake	<input type="checkbox"/>
Brake	<input type="checkbox"/>	Ramp break-over angle	<input type="checkbox"/>
Bumper	<input type="checkbox"/>	Rollover Protection Structure	<input type="checkbox"/>
Coolant reservoir	<input type="checkbox"/>	Safety belt	<input type="checkbox"/>
Departure angle	<input type="checkbox"/>	Skid plate	<input type="checkbox"/>
Differential lock	<input type="checkbox"/>	Speedometer	<input type="checkbox"/>
Doors	<input type="checkbox"/>	Suspension	<input type="checkbox"/>
Fuel (cap, gauge, and tank)	<input type="checkbox"/>	Throttle mode control	<input type="checkbox"/>
Gear selector	<input type="checkbox"/>	Tires (tire pressure)	<input type="checkbox"/>
Ground clearance	<input type="checkbox"/>	Weight (Approximate)	<input type="checkbox"/>
Headlights	<input type="checkbox"/>	Wheels	<input type="checkbox"/>
Headrest	<input type="checkbox"/>	Wheel base	<input type="checkbox"/>
Height	<input type="checkbox"/>	Winch	<input type="checkbox"/>



Side by Side (UTV) Instructor Course



Module 2

Instructor: Michael Pepin/Richard Hedgecock

Revised: 10/30/2017

Course Goal: To create UTV Driver Instructors capable of facilitating a Basic UTV Driver course to new UTV operators with a focus on vehicle familiarization and the safe and morale operation of a UTV.

Module Goal: Students will satisfactorily complete a series of closed course cone exercises designed to evaluate their ability to drive a UTV.

Module Total Time: 2 hours

Learning Objectives: Students will participate in a series of closed course range exercises to increase their familiarity with UTV operations and evaluate their ability to drive a UTV in a safe and controlled manner.

Resources Needed: Student UTVs, 30 small traffic cones, nine delineators, and three 4' 4X6 wooden beams (if materials do not exist at site).

Module Summary: This module involves students completing a series of five closed course exercises. Each exercise is designed to focus on individual vehicle features and dynamics. Students will complete the exercises utilizing smooth throttle control, brake application, and turning. Each student will continue with the exercises until course facilitators are confident in the student's ability to operate the vehicle safely. These exercises are used to prepare students for the open trail exercises and open trail drive later in the course.

Content	Instructor Notes
II. Closed range exercises <ul style="list-style-type: none"> A. Starting and stopping smoothly [1] <ul style="list-style-type: none"> 1. Tire spin 2. Traction 3. Driving surface 4. Skidding to a stop B. Positioning of UTV in turns [2] <ul style="list-style-type: none"> 1. Apexing turns <ul style="list-style-type: none"> a) High/outside approach b) Low point of turn c) Exit high/outside d) Potential obstacles e) Availability of trail space 2. Rear-wheel cheat <ul style="list-style-type: none"> a) Inside tracking of rear tires 	<p>[1] RUN: Learning Activity #1- Starting and stopping smoothly. Ensure demonstrations are smooth and controlled. Modelling proper behavior is vital.</p> <p>[2] RUN: Learning Activity #2- Position of UTV in turns. Watch head positioning of drivers. Ensure heads are up and looking through turns toward the direction they want to travel.</p>



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<ul style="list-style-type: none">b) Increases with increased steering inputc) Potential of impact at apexC. Left-foot Braking [3]<ul style="list-style-type: none">1. Generally, non-applicable in standard vehicle2. Off-road application<ul style="list-style-type: none">a) Slow maneuversb) Rock/obstacle climbingc) Increased control3. TechniqueD. Driver input and suspension [4]<ul style="list-style-type: none">1. Acceleration<ul style="list-style-type: none">a) Rearward weight transferb) Loss of traction in front tiresc) Potentially Diminished steering2. Deceleration<ul style="list-style-type: none">a) Forward weight transferb) Lifting of rear tires3. Turning<ul style="list-style-type: none">a) Lateral weight transferb) High center of gravityc) Compounded with additional weightd) Rollover and tipping concernsE. Steering<ul style="list-style-type: none">1. Push pull steering2. Hand of hand steering3. Positioning of handsF. Stopping quickly and collision avoidance [5]<ul style="list-style-type: none">1. Evasive maneuvers in UTV<ul style="list-style-type: none">a) Civiliansb) Animalsc) Environmental factors2. Stopping quickly<ul style="list-style-type: none">a) Straight line brakingb) Tire lock and skiddingc) Threshold brakingd) Availability of ant-lock brake systems (ABS)3. Collision avoidance<ul style="list-style-type: none">a) Sudden path changes to avoid obstacleb) Avoid braking while turning	<p>[3] RUN: Learning Activity #3- Left-foot braking, backing, and turning. During demonstration, be sure all body parts stay inside the ROPS. Students will tend to put their hands on the ROPS or outside of the ROPS while backing.</p> <p>Smooth throttle control and left-foot braking application are vital and will transfer into the open field exercises. Continue this exercise until students can operate the vehicle without excessive compression of the suspension.</p> <p>[4] RUN: Learning Activity #4- Chicane. Monitor student's speeds during this activity. Excessive speeding will cause wheels to lift from the ground and must be addressed as unacceptable driving behavior immediately.</p> <p>[5] RUN: Learning Activity #5- Collision Avoidance. Adjust the timing of the lane signaling based on the speeds of the students. The exercise should simulate an object suddenly appearing in the path of the students as they drive forward. If students are driving slowly delay the signaling and if they are driving faster provide the signal sooner to maintain a safety buffer for instructors.</p>
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Side by Side (UTV) Instructor Course



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| <ul style="list-style-type: none">c) Too much steering inputd) Not enough steering inpute) Straight line braking | |
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Side by Side (UTV) Instructor Course



Learning Activity Summary #1- Starting and Stopping Smoothly

Purpose: This activity will reinforce the importance of starting forward movement smoothly and coming to a controlled stop. Students will recognize the importance of traction and torque as it relates to acceleration and the increase in stopping distance as it relates to increased speeds.

Description: Provide the students a description of the exercise and the layout of the course. A facilitator will then drive a series demonstration laps displaying proper driving behaviors. The facilitator will increase speeds as they progress through the exercise to demonstrate the abilities of the vehicles. Once the demonstration laps are completed, students will be paired up in vehicles, instructed to place their vehicles in a line, and drive through the series of cones. A facilitator will be at the entrance to the exercise to regulate the flow of students and vehicles on the course.

The students will continue to drive through the course until it is determined they can operate the vehicle smoothly. Once facilitators are satisfied, student drivers will rotate to allow all students the ability to complete the exercise.

Key Learning Points:

- Smooth acceleration is completed through a balance of torque and traction.
- Effective braking involves smooth brake application to prevent skidding.
- Skidding tires have no traction and no control.
- Accelerating and braking while in a turn can greatly alter vehicle stability.

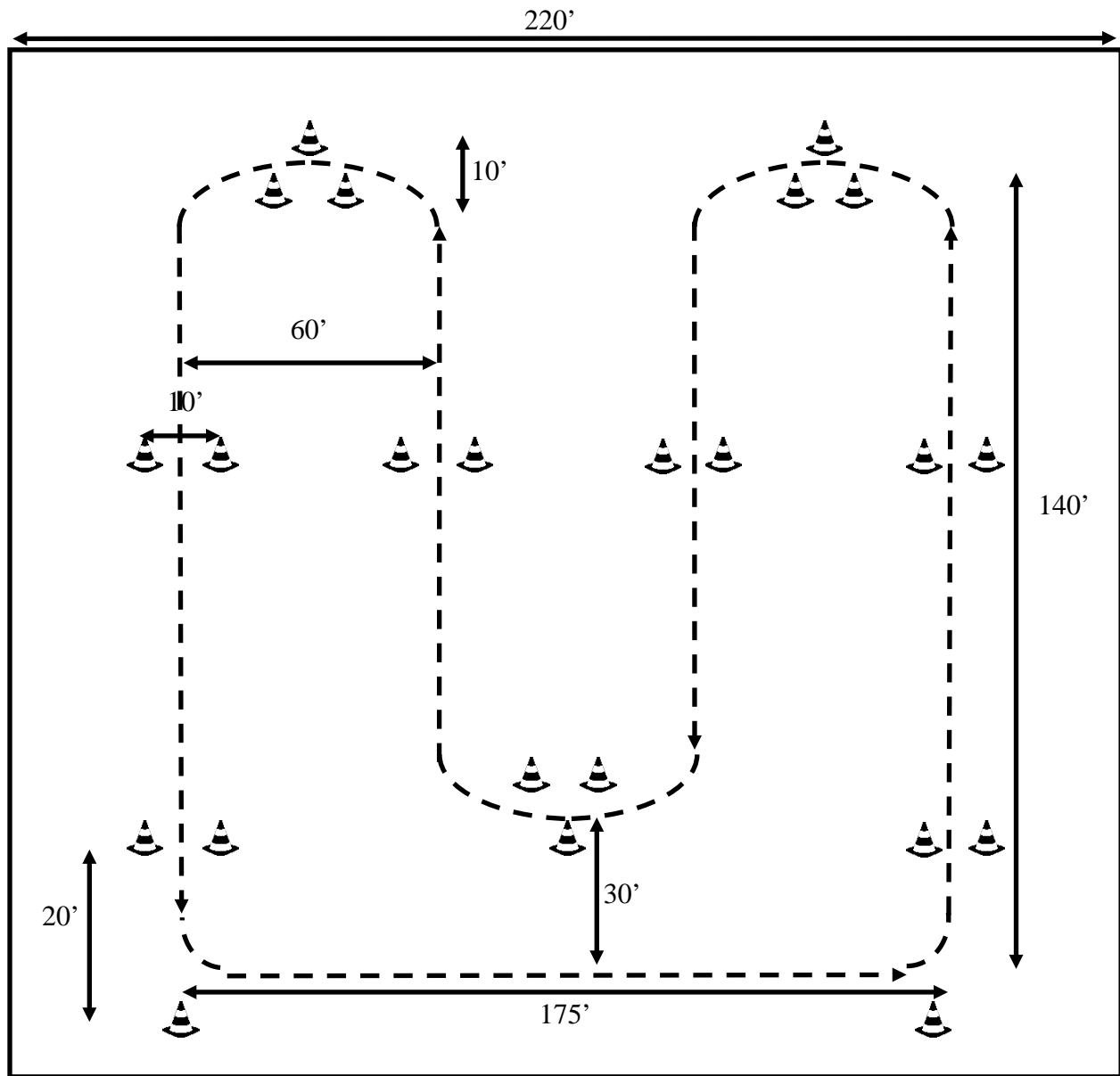
Time: 30 minutes



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Learning Activity #1- Starting and Stopping Smoothly Course Diagram





Side by Side (UTV) Instructor Course



Learning Activity Summary #2 – Rear-wheel Cheat and Proper Positioning in Turns

Purpose: This activity will reinforce vehicle dynamics while in a turn. Students will encounter rear-wheel cheat and be forced to adjust vehicle position to avoid striking cones on the course. Students will also feel the effects of lateral weight transfer as speeds increase and decrease.

Description: Provide the students a description of the exercise and the layout of the course. A facilitator will then drive a series demonstration laps displaying proper driving behaviors. The facilitator will increase speeds as they progress through the exercise to demonstrate the abilities of the vehicles. Once the demonstration laps are completed, students will be paired in vehicles, instructed to place their vehicles in a line and drive to a specific cone dedicated by a facilitator.

Once instructed, students will drive around the cone in a clockwise direction. After each student driver has driven multiple laps, they will come to a stop at the instruction of the facilitator, change direction, and drive counter clockwise around the cone. This will be completed in both two and four-wheel drive. Additional laps can be added for vehicles equipped with locking differentials.

The students will continue to drive around the cones until it is determined they can operate the vehicle smoothly. Once facilitators are satisfied, student drivers will rotate to allow all students the ability to complete the exercise.

Key Learning Points:

- Rear-wheel cheat must be accounted for while making sharp turns.
- Vehicle turning radius' vary greatly when operating in two and four-wheel drive

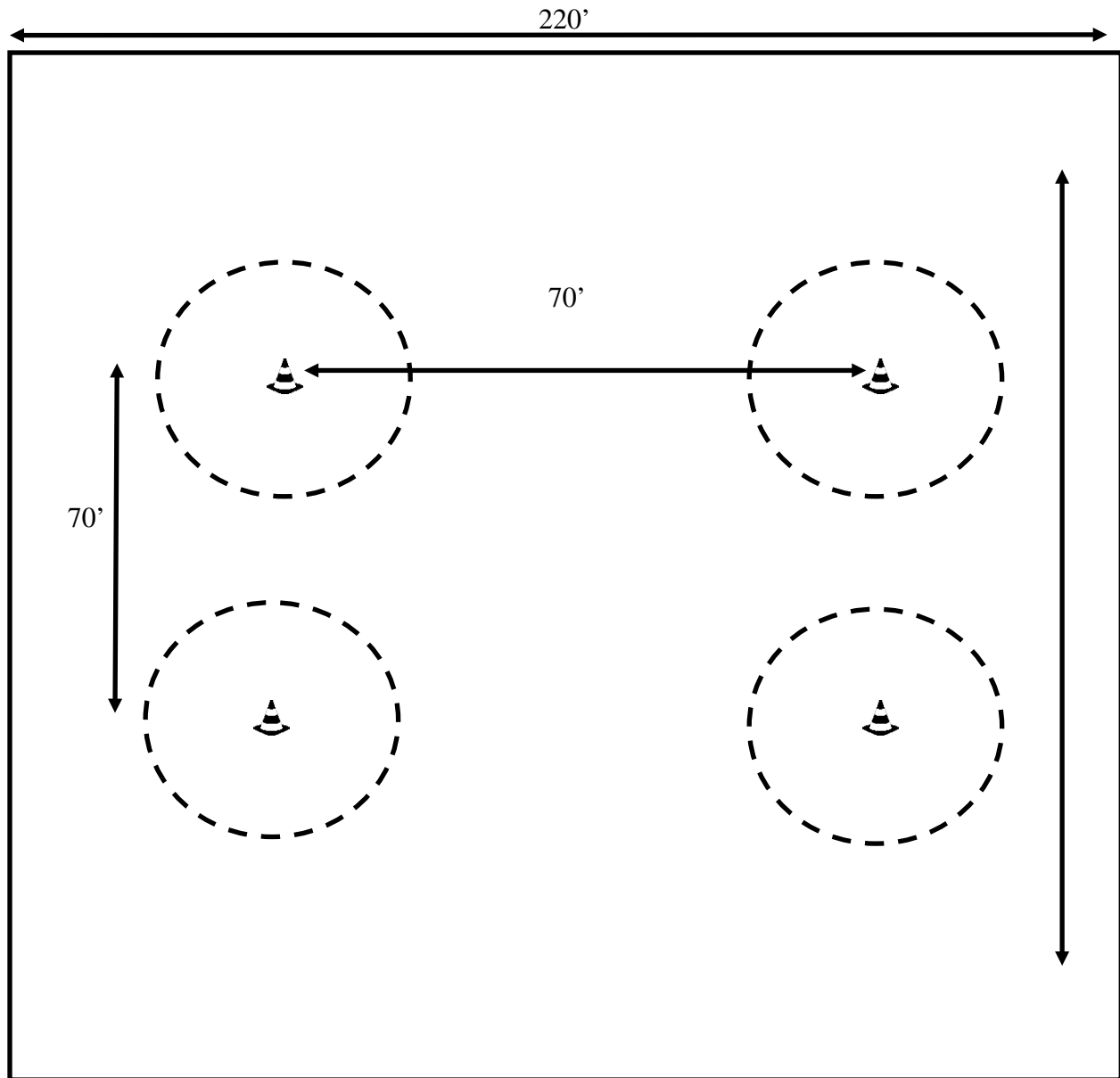
Time: 30 minutes



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Learning Activity #2- Rear-wheel Cheat and Proper Positioning in Turns Course Diagram





Side by Side (UTV) Instructor Course



Learning Activity Summary #3 – Left-foot Braking, Backing, and Turning

Purpose: This activity will reinforce throttle control using left-foot braking to drive over obstacles and closely approaching object in both forward and reverse. Students will encounter front end swing and rear-wheel cheat.

Description: Provide the students a description of the exercise and the layout of the course. A facilitator will then drive a demonstration lap displaying proper driving behaviors. Once the demonstration lap is completed, students will be paired in vehicles, instructed to place their vehicles in a line and drive to a specific course dedicated by a facilitator.

Once instructed, students will drive smoothly over the beam blocking the entrance to the exercise using throttle control and left-foot braking. Students will drive forward until they get within inches of the first delineator. They will then place the vehicle in reverse and back-up while turning toward the next delineator until they are inches away. Students will then place the car in drive and drive forward until they are inches away from the delineator directly in front of them. Students will again place the vehicle in reverse and back-up to the cone initially driven toward at the beginning of the exercise. Finally, they will place the vehicle in drive and drive forward smoothly until they exit the exercise.

The students will continue to drive through the course until it is determined they can operate the vehicle smoothly. Once facilitators are satisfied, student drivers will rotate to allow all students the ability to complete the exercise.

Key Learning Points:

- Throttle control and left-foot braking is essential while crawling over objects
- Rear-wheel cheat must be accounted for while making sharp turns.
- Driving a UTV in reverse offers a variety of difficulties unique to UTVs

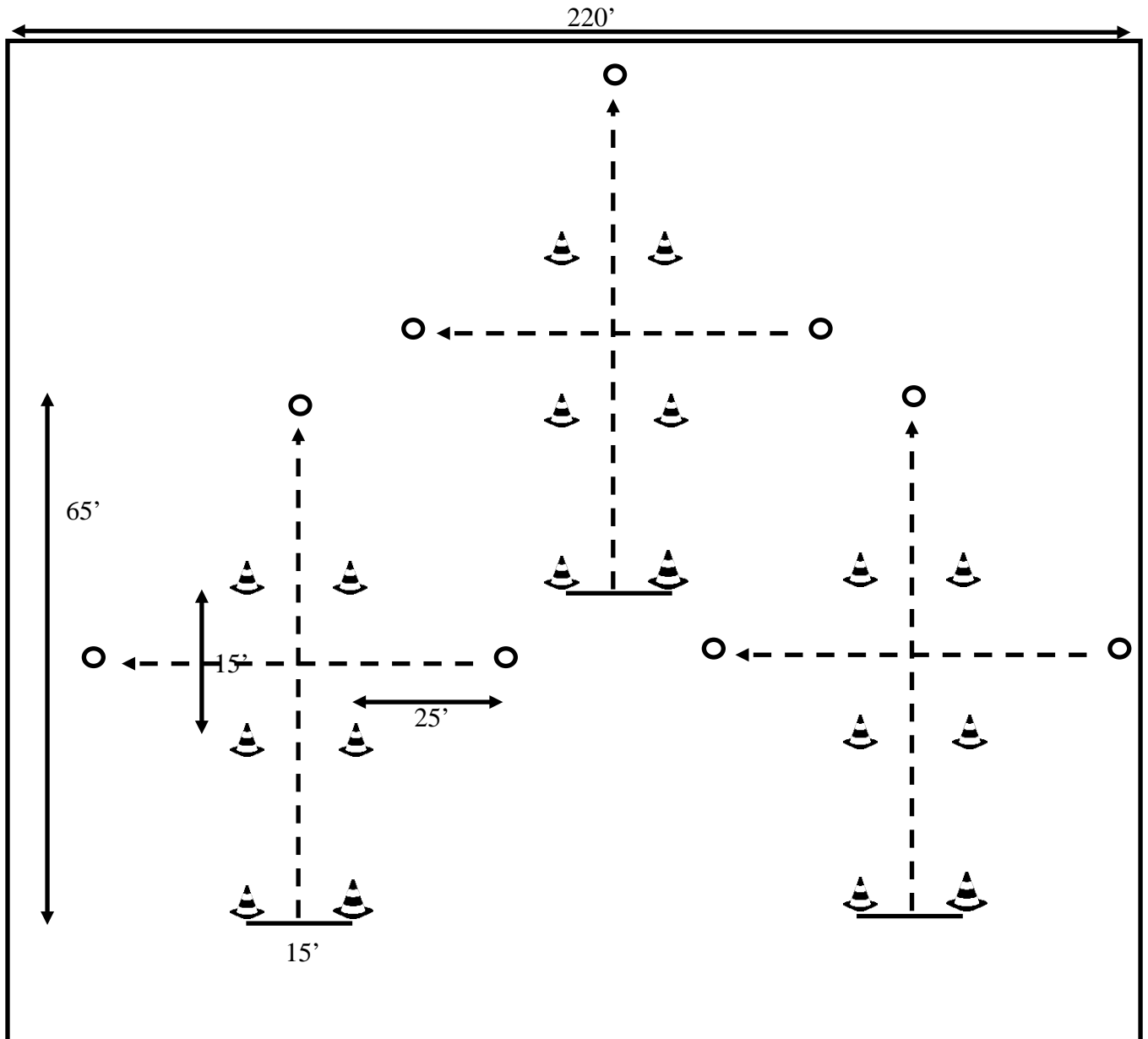
Time: 30 minutes



Side by Side (UTV) Instructor Course



Learning Activity Summary #3 – Left-foot Braking, Backing, and Turning Course Diagram





Side by Side (UTV) Instructor Course



Learning Activity Summary #4 – Chicane

Purpose: This activity will reinforce throttle control while conducting a series of turns in both forward and reverse. Students will encounter front end swing and rear-wheel cheat.

Description: Provide the students a description of the exercise and the layout of the course. A facilitator will then drive a demonstration lap displaying proper driving behaviors. Once the demonstration lap is completed, students will be paired in vehicles, instructed to place their vehicles in a line and drive to a specific course dedicated by a facilitator.

Once instructed, students will drive smoothly forward weaving in and out of the cone pattern. Once students reach the end of the pattern, they will place the vehicle in reverse and back through the cone pattern.

Each student will conduct this exercise at least twice prior to rotating with their partner. The students will continue to drive through the course until it is determined they can operate the vehicle smoothly. Once facilitators are satisfied, student drivers will rotate to allow all students the ability to complete the exercise.

Key Learning Points:

- Smooth throttle control and steering while weaving through the cone pattern to prevent wheel lift.
- Small steering adjustments needed to prevent more steering input when off course.
- Rear-wheel cheat must be accounted for while making sharp turns.
- Driving a UTV in reverse offers a variety of difficulties unique to UTVs

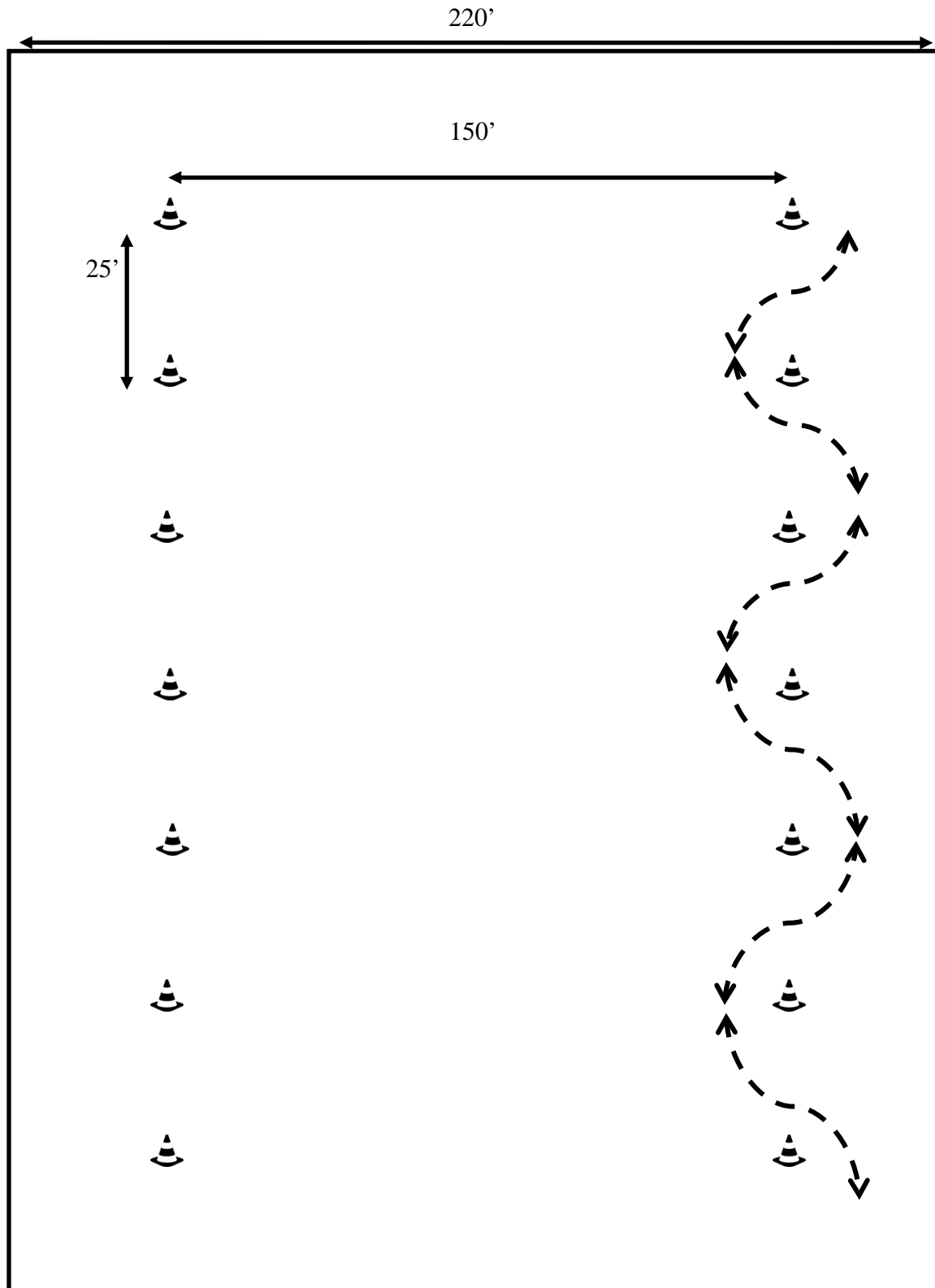
Time: 30 minutes



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Learning Activity Summary #4 – Chicane Course Diagram





Side by Side (UTV) Instructor Course



Learning Activity Summary #5 – Collision Avoidance Obstacle

Purpose: This activity will simulate an obstacle suddenly entering the driving path of the student, causing them to make an evasive maneuver to avoid a collision.

Description: Provide the students a description of the exercise and the layout of the course. A facilitator will then drive a demonstration lap displaying proper driving behaviors. Once the demonstration lap is completed, students will be paired in vehicles, instructed to place their vehicles in a line and drive to the beginning starting area of the course.

Once instructed, students will drive smoothly forward in a straight-line. As students approach the signal cones, the facilitator will give a signal to the students; directing them which lane to turn into. When in the dedicated lane, students will quickly apply the brakes and come to a complete stop. After the students come to a complete stop they will be instructed to drive back to the starting area through the chicane exercise.

Each student will conduct this exercise at least three times prior to rotating with their partner. The students will continue to drive through the course until it is determined they can operate the vehicle smoothly. Once facilitators are satisfied, student drivers will rotate to allow all students the ability to complete the exercise.

Key Learning Points:

- Smooth throttle control and steering while weaving through the cone pattern to prevent wheel lift.
- Small steering adjustments needed to prevent more steering input when off course.
- Rear-wheel cheat must be accounted for while making sharp turns.
- Driving a UTV in reverse offers a variety of difficulties unique to UTVs

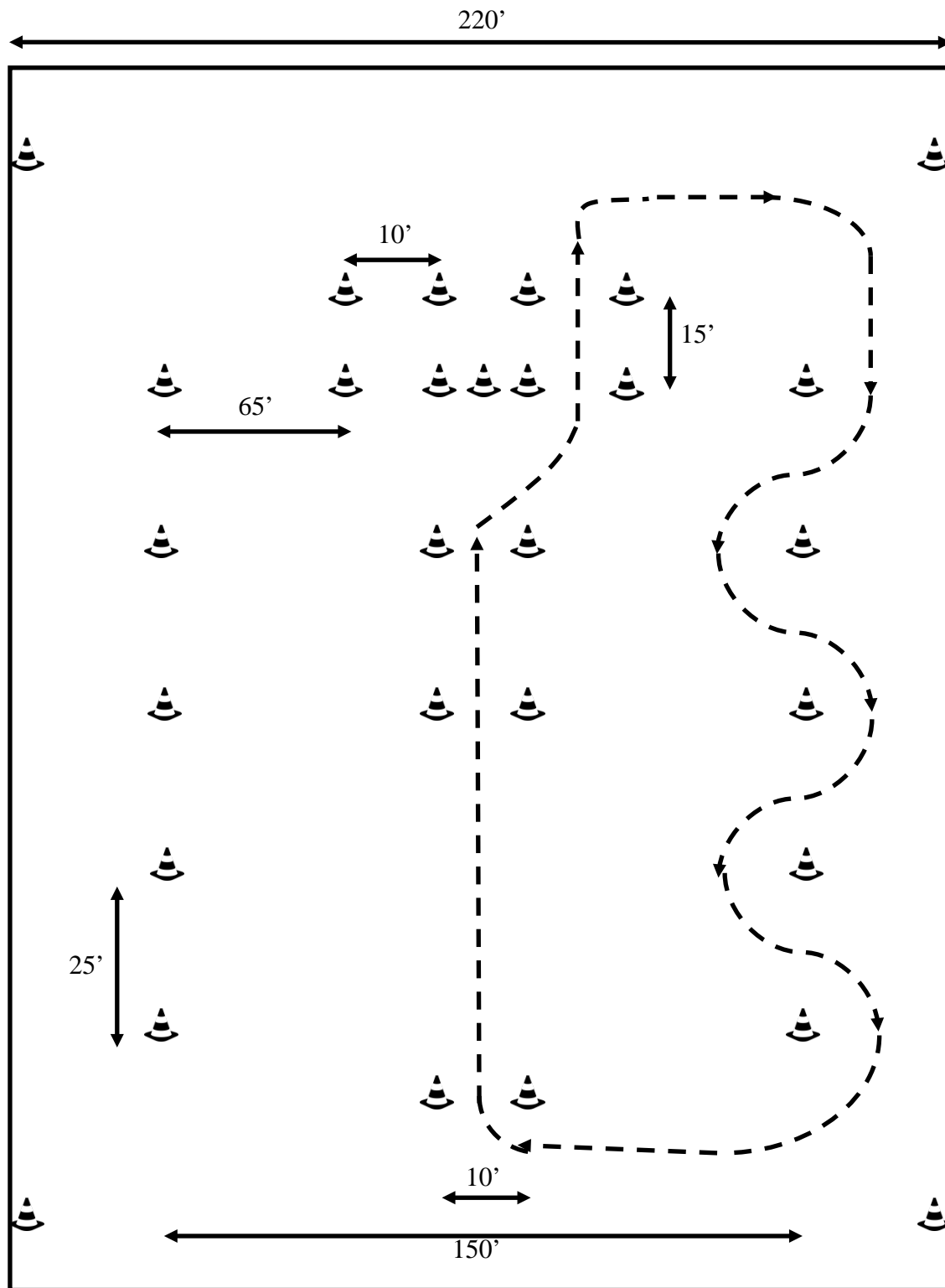
Time: 30 minutes



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Learning Activity Summary #5 – Collision Avoidance Obstacle Course Diagram





Side by Side (UTV) Instructor Course



Module 3

Instructor: Michael Pepin/Richard Hedgecock

Revised: 10/30/2017

Course Goal: To create UTV Driver Instructors capable of facilitating a Basic UTV Driver course to new UTV operators with a focus on vehicle familiarization and the safe and morale operation of a UTV.

Module Goal: Students will discuss and conduct vehicle recoveries in a static environment in preparation for practical applications during open field exercises.

Module Total Time: 30 minutes

Learning Objectives: Students will understand the importance of operator safety while conducting a vehicle recovery and participate in static recoveries to reinforce proper techniques.

Resources Needed: Vehicle recovery equipment	
Module Summary: This module includes a discussion on vehicle recoveries in relationship to agency specific policies and procedures. Students will also conduct simple vehicle recoveries in a static environment.	
Content	Instructor Notes
<p>III. Vehicle recoveries</p> <p>A. Policy and procedure [1]</p> <ol style="list-style-type: none"> 1. Recovery policy 2. Non-recovery policy 3. Failing to act <ol style="list-style-type: none"> a) Exigency b) Communications c) Time delay d) Weather <p>B. Recovery equipment [2]</p> <ol style="list-style-type: none"> 1. Winches 2. Tow straps 3. Chains 4. Shovel 5. D-rings <p>C. Conducting recoveries [3]</p> <ol style="list-style-type: none"> 1. Communication 2. Safety procedures 3. PPE 4. Recovery lines 	<p>[1] ASK: What restraints are created by policy and procedure and how does it affect an operator's ability to perform a recovery?</p> <p>Wait for responses and follow up with:</p> <p>If restrictive policies exist, how are they affected when great bodily injury and potential death is possible for failing to act?</p> <p>[2] ASK: What resources are available to UTV operators and how do the resources or lack of resources affects the ability to conduct a recovery?</p> <p>Take an inventory of student's available recovery equipment.</p> <p>[3] RUN: Learning Activity #1- Vehicle</p>



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<ol style="list-style-type: none">5. Safe areas6. Calculating weight limits<ol style="list-style-type: none">a) Vehicle weightb) Gradingc) Terrain	<p>Recoveries. The ability to facilitate this learning activity will be dependent on the amount of materials students brought with them. If students are lacking materials, recovery equipment from the instructor vehicles will be used to conduct basic recoveries.</p> <p>A distinction should be made for those students that have a "no recovery" policy, in that this exercise is in preparation for the Open Trail Exercises and Open Trail Drive later in the course. If student vehicles become stuck or disabled, vehicle recoveries will be conducted unless the student or student's agency is willing to pay the expenses related to paying for a professional towing company.</p>
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Side by Side (UTV) Instructor Course



Learning Activity Summary #1- Vehicle Recoveries

Purpose: This activity introduces students to basic vehicle recoveries in preparation for the Open Trail Exercises and Open Trail Drive later in the course.

Description: Facilitators will instruct students to line-up vehicles into two even lines approximately 20 feet apart and retrieve vehicle recovery equipment. Once instructed, students will be divided into groups of four students per two UTVs. Students will successfully conduct vehicle recoveries in a static environment to reduce the risk of injury and vehicle damage. Vehicle recoveries will continue until students demonstrate the ability to do so with ease and without violating safety protocols.

Key Learning Points:

- Safely conduct basic vehicle recoveries without violating safety protocols.

Time: 30 minutes



Side by Side (UTV) Instructor Course



Module 4

Instructor: Michael Pepin/Richard Hedgecock

Revised: 10/31/2017

Course Goal: To create UTV Driver Instructors capable of facilitating a Basic UTV Driver course to new UTV operators with a focus on vehicle familiarization and the safe and morale operation of a UTV.

Module Goal: Students will satisfactorily complete a series of exercises designed to evaluate their ability to drive a UTV in trail environments.

Module Total Time: 3 hours

Learning Objectives: Students will be able to navigate a series of hills and have the ability to safely abort a hill climb should they become stuck. Students will also encounter a number of environments where they can become cross-axelled or stuck and will rely on their knowledge to overcome the obstacles.

Resources Needed: 10 small traffic cones and vehicle recovery equipment

Module Summary: Students will satisfactorily complete a series of exercises designed to evaluate their ability to drive a UTV in trail environments. If student vehicles become stuck or disabled during the exercises, vehicle recoveries will take place.

Content	Instructor Notes
IV. Open trail exercises <ul style="list-style-type: none"> A. Navigating hills <ul style="list-style-type: none"> 1. Driver ability 2. Grading 3. Surface B. Aborting hill climb [1] <ul style="list-style-type: none"> 1. Parking procedure 2. Reverse 3. Surrounding environment 4. Front end swing C. Side hilling [2] <ul style="list-style-type: none"> 1. Avoid if possible 2. Angle of hill (vehicle dependent) 3. Steering 4. Speed D. Rocky terrain [3] <ul style="list-style-type: none"> 1. Picking appropriate paths 2. Cross axeling 	<p>Instructors will have to scout out areas suitable for conducting the open trail exercises. The areas should be difficult enough to provide a challenge to the students, but still be well within safety margins to reduce the potential for injuries and collisions.</p> <p>[1] RUN: Learning Activity #1- Hill Climbs and Aborting Hill Climbs. While choosing an area for this exercise, ensure the angle of the hill is steep enough to challenge students, but not too steep to allow loss of traction and skidding downhill.</p> <p>During the parking procedures section for the hill abort, ensure students set the parking</p>



Side by Side (UTV) Instructor Course



<ul style="list-style-type: none">3. Left-foot braking4. Spotter responsibilitiesE. Operating in soft sand [4]<ul style="list-style-type: none">1. Torque vs traction2. Momentum3. Sand and water4. Avoid excessive brakingF. Navigating through water [5]<ul style="list-style-type: none">1. Depth and current2. Electrical devices3. Gear selection4. Throttle control5. Bow wave	<p>brake fully prior to placing the vehicle in parking and removing their foot from the brake pedal.</p> <p>[2] RUN: Learning Activity #2- Side Hilling. While choosing an area for this obstacle, to not select an area beyond the rollover angle of the vehicles participating in the course. The hill should be steep enough to cause a feeling of unease in the students, but provide a level of confidence as they complete the obstacle.</p> <p>Additionally, do not stand on the downhill side of the drivers and do not allow students to stage in an area where a collision would occur with additional vehicles in the event of a rollover or bailout.</p> <p>[3] RUN: Learning Activity #3- Rocky Terrain. All students should experience the feeling of cross axeling. This can be accomplished by maneuvering over rocks or deeper depressions in the ground.</p> <p>If students become stuck in a cross-axel situation, they will first apply left-foot braking techniques in an attempt to become unstuck. Instructors should listen for steady throttle application through an increase in RPMs and look for bouncing excessive suspension compression resulting from jerking movements.</p> <p>The following obstacles can be made optional based on the availability of resources and environmental concerns within the training venue. If the decision is made to exclude these obstacles the associated times will be divided amongst learning activities 1-3.</p> <p>[4] RUN: Learning Activity #4- Operating in soft sand. This obstacle can be optional based on the availability of soft sand in the training venue. While driving in the sand, instructors should watch for excessive throttle application resulting in loss of</p>
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Side by Side (UTV) Instructor Course



	<p>traction.</p> <p>[5] RUN: Navigating through water. This obstacle is optional based on the availability of water obstacles.</p>
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Side by Side (UTV) Instructor Course



Learning Activity Summary #1- Hill Climbs and Aborting Hill Climbs

Purpose: This activity exposes students to a variety of hill grades to become comfortable with ascending and descending hills. Students will also encounter a hill abort, where they will have to safely back down a hill.

Description: Facilitators will select a path that will expose students to many differing hills. Of the hills selected, facilitators should scout for areas capable of performing the following techniques:

- A hill of a lesser grade, free of any obstacles (trees, rocks, etc.) that will allow the students to conduct a turn on the grade without danger of rolling over. Cones will be used to outline the path chosen by instructors.
- A steep graded hill with a straight stretch at least 200' for performing hill aborts. The area to the sides of the straight stretch should be free from obstacles. Additionally, the area must have enough run off area toward the bottom of the hill in the event students back down too quickly.
- A steep graded descending hill which will cause students to adjust gears and descend in the lower range of gears to practice mechanical sympathy and avoid overuse of the brakes.

Students will continue to navigate through the obstacle until facilitators deem they are able to do so safely and in a controlled manner.

Key Learning Points:

- Selecting correct gear for ascending and descending hills
- UTVs are not rider active like ATVs
- Conducting a U-turn on a hill can cause a rollover
- Procedures for backing down a hill

Time: 30 minutes



Side by Side (UTV) Instructor Course



Learning Activity Summary #2- Side Hilling

Purpose: This activity exposes students to the changes in vehicle dynamics and dangers associated with side hilling.

Description: Facilitators will select a path on a hill that runs horizontally along the hill. The path will be outlined with small traffic cones to provide students a clear path of travel. The grade will be steep enough to allow the students to feel a change in lateral weight transfer, but not cause a rollover in the event students stop or stall on the hill. The path should be approximately 100' or more to ensure the students feel the differences in driving along a hillside and become confident in their abilities.

Students will continue to navigate through the obstacle until facilitators deem they are able to do so safely and in a controlled manner.

Key Learning Points:

- Side hilling increases the potential for rollovers depending on the grade of hill and obstacles.
- Each vehicle has a tip angle operators must be familiar with to prevent rollovers.
- UTVs are not rider active like ATVs

Time: 30 minutes



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Learning Activity Summary #3- Rocky Terrain

Purpose: This activity exposes students to rocky terrain and provides them with the opportunity to navigate across the terrain in a slow, methodical, and safe manner.

Description: Facilitators will select an area with a variety of obstacles for students to drive over. Obstacles should include rocks, downed tree branches, or holes in the ground, the best suited environments will contain all three obstacles or more. The obstacles should be large enough to provide a challenge but not place the students in danger of tipping or rolling over.

Students will navigate over the obstacles while focusing on smooth throttle and brake application and mechanical sympathy. If students get to the point where they are unable to see the ground in front of them they will use their passenger as a spotter. Working together, the spotter will guide the driver over, through or around the obstacles.

Students will continue to navigate through the obstacle until facilitators deem they are able to do so safely and in a controlled manner.

Key Learning Points:

- Selecting appropriate paths to safely navigate obstacles
- Mechanical sympathy
- Smooth throttle control, brake application, and left-foot braking
- Communication between the spotter and driver is imperative to safe driving

Time: 30 minutes



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Learning Activity Summary #4- Operating in Soft Sand

Purpose: This activity exposes students to driving in soft sand environments and the unique challenges they present.

Description: This activity is largely dependent on the availability of suitable driving area. In beach and desert environments soft sand can be easily found. In rural areas, soft sand can be difficult to locate. Instructors should scout for dried river beds if available in the area.

Facilitators will lead the students in a caravan while travelling through the sand. Smooth throttle application should be emphasized to prevent loss of traction and excessive tire spinning. If students continuously apply rapid acceleration, they will begin to dig a hole with their tires and potentially become stuck.

If students become stuck in the sand then a recovery exercise will be conducted. Time and venue allowing, facilitators can manufacture a vehicle recovery activity using an instructor vehicle. Students will continue to navigate through the obstacle until facilitators deem they are able to do so safely and in a controlled manner.

Key Learning Points:

- Selecting appropriate paths to remain on solid soil
- Carrying momentum is important to staying on upper levels of sand
- Smooth throttle control upon moving is necessary to not become stuck

Time: 30 minutes



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Learning Activity Summary #5- Navigating Through Water

Purpose: This activity exposes students to the changes associated with fording water obstacles.

Description: This activity is largely dependent on the availability of suitable driving area. Water obstacles can be dangerous and hazardous if not properly analyzed. Facilitators should scout the training area for water obstacles free from fast moving water and water of such a depth that will cause the UTVs to stall or seize.

Prior to entering the water, have students sound the area to determine the depth and current of the water. Students should analyze the water for potential obstacles capable of causing the vehicle to become stuck or disabled. While entering the water, students should use smooth throttle control to enter with minimal splashing. Students will gradually accelerate while entering the water to create a bow wave. They will avoid braking while driving through the water and disrupting the bow wave.

Students will continue to navigate through the obstacle until facilitators deem they are able to do so safely and in a controlled manner.

Key Learning Points:

- Analyze the water obstacle or crossing prior to entering the water
- Enter the water smoothly and gradually accelerate to establish a bow wave
- Avoid braking and wheel spin to maintain bow wave

Time: 30 minutes



Side by Side (UTV) Instructor Course



Module 5

Instructor: Michael Pepin/Richard Hedgecock

Revised: 10/30/2017

Course Goal: To create UTV Driver Instructors capable of facilitating a Basic UTV Driver course to new UTV operators with a focus on vehicle familiarization and the safe and morale operation of a UTV.

Module Goal: Students will conduct a series of teach backs in preparation for facilitating the Basic UTV Driver course.

Module Total Time: 1 hour

Learning Objectives: Students will understand the importance of addressing the unique learning characteristics of the adult learner and conduct a series of learning activities encountered in previous learning modules.

Resources Needed:	
Module Summary: Facilitated group discussion on adult learning concepts (ALC) and their applications in UTV training. Students will begin to take the role of instructor and facilitate the models contained within the Basic UTV Driver Course.	
Content	Instructor Notes
V. Student instructor teach backs A. ALC [1] 1. Challenges in adult learning [2] a) Generational values b) Experience c) Willingness to learn 2. Learning modalities a) Kinesthetic b) Auditory c) Visual 3. Blooms taxonomy of learning a) Create b) Evaluate c) Analyze d) Apply e) Understand f) Remember B. Instructor knowledge and understanding [3]	<p>[1] ASK: Why are ALCs important and what consequences exist should an instructor neglect to implement ALCs into the facilitation of a course?</p> <p>[2] ASK: What difficulties exist in the instruction of adult learners and how can a facilitator take steps to mitigate such difficulties?</p> <p>[3] ASK: How can an instructor's failure to</p>



Side by Side (UTV) Instructor Course



<ol style="list-style-type: none">1. Instructor credibility2. Deeper level of knowledge3. Do not make things up <p>C. Instructor modeling behaviors [4]</p> <ol style="list-style-type: none">1. Instructor credibility2. Proper modeling sets the tone3. Students will mimic instructors4. Learned behaviors will continue<ol style="list-style-type: none">a) Ongoing effectsb) Effects on driver safetyc) Liability	<p>address vehicle inspections and familiarization topics increase instructional liability?</p> <p>[4] ASK: Why is it important for instructors to model proper UTV driving behaviors and what risks exist should an instructor fail to model expected student behaviors?</p>
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Side by Side (UTV) Instructor Course



Module 6

Instructor: Michael Pepin/Richard Hedgecock

Revised: 10/30/2017

Course Goal: To create UTV Driver Instructors capable of facilitating a Basic UTV Driver course to new UTV operators with a focus on vehicle familiarization and the safe and morale operation of a UTV.

Module Goal: Students will experiment with geo caching and become familiar with locating geographical coordinates using a global positioning satellite (GPS) device.

Module Total Time: 2 hours

Learning Objectives: Students will be able to plan a safe and successful path to a given set of GPS coordinates.

Resources Needed: GPS devices, GPS coordinates, blue painters tape, and permanent marker.

Module Summary: Students will become acquainted with GPS devices and participate in a GPS navigation learning activity. Students will be supplied with GPS coordinates by the instructors, which will lead them to another set of coordinates. Students will continue to navigate to locations until they have located all predetermined markers.

Content	Instructor Notes
VI. Navigating by GPS A. Search and Rescue application <ol style="list-style-type: none"> 1. Training 2. Equipment availability 3. Operator safety <ol style="list-style-type: none"> a) Knowledge of terrain b) Degree of difficulty c) Drive, hike, or climb B. Law enforcement application [1] <ol style="list-style-type: none"> 1. Drug task force 2. Off road enforcement 3. Marking crime scenes/evidence C. Using a GPS device [2][3] <ol style="list-style-type: none"> 1. Longitude 2. Latitude 3. Elevation 4. Direction 5. Map orientation 	Instructors will have to scout out locations suitable for students to navigate to and place markers with follow-up GPS coordinates. Suitable coordinates allow for multiple paths of approach. [1] ASK: What are the potential applications for a GPS device in law enforcement? [2] ASK: What considerations must a UTV driver evaluate while locating a specific marker using a GPS device? [3] RUN: Learning Activity #1- Navigating by GPS. While students are planning their route to each location, instructors should listen for potential dangers. If the students



Side by Side (UTV) Instructor Course



	<p>choose a route deemed unsafe, instructors will interject and advise students to plan another route to the location. However, if students choose a route which will not lead them to the location, instructors will allow the students to become lost and determine another route.</p>
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Side by Side (UTV) Instructor Course



Learning Activity Summary #1- Navigating with GPS

Purpose: Students will experiment with geo caching and become familiar with locating geographical coordinates using a global positioning satellite (GPS) device.

Description: Course instructors will scout locations suitable for students to navigate to and place markers with follow-up GPS coordinates. Instructors will write the GPS coordinates of the selected locations on blue painters tape with black permanent marker and stick the tape to small traffic cones. The traffic cones will be left at the various locations. Cones will be left sequential order so that when students arrive at an identified location, they are given the next GPS coordinates to navigate to. Students will collect the cones as they locate them. The final location should be at or near the course staging area.

As students are planning their route to each location, instructors should listen for potential dangers. If the students choose a route deemed unsafe, instructors will interject and advise students to plan another route to the location. However, if students choose a route which will not lead them to the location, instructors will allow the students to become lost and determine another route

Key Learning Points:

- Navigating using GPS devices
- Analyzing maps and safe paths of travel

Time: 2 hours



Side by Side (UTV) Instructor Course



Module 7

Instructor: Michael Pepin/Richard Hedgecock

Revised: 10/30/2017

Course Goal: To create UTV Driver Instructors capable of facilitating a Basic UTV Driver course to new UTV operators with a focus on vehicle familiarization and the safe and morale operation of a UTV.

Module Goal: Student instructors will successfully facilitate the Basic UTV Driver course to beginning level UTV operators.

Module Total Time: 8 hours

Learning Objectives: Students instructors will satisfactorily conduct the UTV Basic Driver Course for new UTV drivers with little assistance from the course facilitators.

Resources Needed: 30 small traffic cones, nine delineators, three 3' 1X2 sticks, and three 4' 4"X6" beams.

Module Summary: Student instructors will successfully facilitate the Basic UTV Driver Course to beginning level UTV operators. Student instructors will facilitate the learning activities conducted in Modules 1, 2, 3 and 4. Course facilitators will be on hand in the event they are needed; however, their primary role will be to monitor student instructors to ensure they can facilitate the new user course.

Content	Instructor Notes
<p>VII. Student instructor facilitation</p> <p>A. Knowledge of UTVs</p> <ol style="list-style-type: none"> 1. Vehicle inspection <ol style="list-style-type: none"> a) Tires b) Controls c) Lights d) Oil and fluids e) Chassis and accessories 2. Familiarization <ol style="list-style-type: none"> a) Starting b) Vehicle features c) Specialized equipment 3. Vehicle dynamics <ol style="list-style-type: none"> a) Speed b) Handling c) High center of gravity d) Braking 	<p>Student instructors will be given assignments to instruct based on previously assigned topics. If possible, the student instructors will be given topics they have not yet instructed. The role of the facilitator in this module is to observe the facilitation abilities of the student instructors. Facilitators should only step in when needed or they observe obvious safety violations.</p>



Side by Side (UTV) Instructor Course



<ul style="list-style-type: none">e) Weight transferB. Instructor modeling behaviors<ul style="list-style-type: none">1. Instructor credibility2. Modeling proper behaviors3. Students will mimic instructors4. Learned behaviors will continue<ul style="list-style-type: none">a) Ongoing effectsb) Effects on driver safetyc) Liability5. Instructor demonstrations<ul style="list-style-type: none">a) Describe exercisesb) Display exercises descriptionc) Drive demonstrationd) Debrief demonstrationC. Closed range exercises<ul style="list-style-type: none">1. Starting and stopping smoothly2. Positioning of UTV in turns3. Driver input and suspension4. Stopping quickly5. Collision avoidanceD. Open trail exercises<ul style="list-style-type: none">1. Navigating hills2. Aborting hill climbs3. Side hilling4. Rocky terrain5. Operating in soft sand6. Navigating through waterE. Optional exercises<ul style="list-style-type: none">1. Vehicle recoveries2. Navigating by GPS	
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Side by Side (UTV) Instructor Course



Course Competency/Evaluated Activity

Purpose: This activity is utilized to evaluate the abilities of student instructors to facilitate elements contained within the Basic UTV Driver Course. Course facilitators will observe student instructors and provide assistance when needed. However, student instructors will be responsible for ensuring the goals for each module are met while they facilitate the assigned modules.

Description: At the opening of Day 2, course facilitators will divide the learning activities contained within Modules 1-4 amongst the student instructors. Student instructors will be responsible for facilitating their assigned module(s) to their fellow student instructors in the course. Student instructors will set up each learning activity as if they were facilitating the Basic UTV Driver Course to new drivers. For the sake of time management, student instructors can delegate the set-up of the cone courses to fellow students. However, they must participate in the set-up process to ensure they can accurately follow the provided diagrams.

This process will repeat on Day 3 during the Closed Range Exercises and Open Trail Exercises. Facilitators will be sure to divide the modules amongst student instructors in a manner that will ensure each person receives a new teachable module. Toward the closing of Day 3, student instructors will be advised of the modules they will be facilitating on Day 4 during the Basic UTV Driver Course.

On Day 4 facilitators will use the Student Instructor Grading Rubric to evaluate the performance of the student instructors. A score of 12 out of 16 is considered a passing mark. A score below 12 is considered non-passing. Additionally, should any safety violations occur which could result in potential injury, the violating individuals may be immediately excused from the course.

Learning Objective:

- Student instructors will satisfactorily facilitate assigned modules.
- Facilitation will occur without violating operational safety protocols
- Basic UTV Driver Course students will gain the knowledge and skills required to operate a UTV in a safe and morale manner.

Student Instructor Grading Rubric

Category	Poor (1)	Approaching Standard (2)	Standard (3)	Exceptional (4)	Score
Modeling	Fails to observe proper driving etiquette. Performs multiple safety violations	Usually models proper behavior. Performs minor safety violations.	Models proper driving behaviors. No safety violations.	Expertly models desired behaviors. Enforces all safety protocols.	/4
Knowledge of Subject Matter	Does not know subject matter. Does not grasp concepts related to UTV operation and safety.	Vaguely familiar with subject matter. Understands most concepts related to UTV operation and safety.	Familiar with the subject matter. Understands concepts related to UTV operation.	Expert level of subject matter knowledge. Understands and applies concepts related to UTV operation.	/4
Facilitation Skills	Unable to provide clear directions. Micromanages students negatively. Allows students to negatively takeover class	Usually provides clear instructions to students. Fosters little student involvement and interaction.	Provides clear instructions to students. Engages students and involves them in the learning process.	Provides clear instructions and clarifies any questions prior to beginning activity. Comfortable with ALC and adjust to student's needs.	/4
Time Management	Unable to arrange activities in a timely manner. Fails to keep students on task. Difficulty adhering to HDS.	Some difficulty arranging activities. Keeps students on task. Some difficulty adhering to HDS.	Able to switch between activities. Generally keeps students on task. Adheres to HDS.	Easily transitions between activities. Keeps students on task. Seamlessly adjusts activities to ensure objectives are met.	/4
Total Score					/16



Side by Side (UTV) Instructor Course



SAN DIEGO COUNTY SHERIFF'S DEPARTMENT IN-SERVICE TRAINING

COURSE/INSTRUCTOR EVALUATION

Course Title: Side by Side (UTV) Driver Instructor Course
Subject(s):
Instructor's Name(s):
Date:

Student Name (Optional):

What did you like or dislike about the class?

What would you change about the class, if anything?

Rating System: [1] Excellent [2] Very Good [3] Good [4] Fair [5] Poor

- 1. Overall Effectiveness of Training: []
- 2. Instructor's Knowledge of the Subject: []
- 3. Use of Time: []
- 4. Use of Teaching Aids: []
- 5. Overall Quality of Training: []



Side by Side (UTV) Instructor Course



Notes