A fall hazard is anything in the workplace that could cause an unintended loss of balance, or bodily support, and result in a fall. The purpose of this fall protection policy is to establish guidelines to protect all University of Wisconsin-Platteville employees engaged in outdoor or indoor work activities that expose them to potential falls from elevations.

This policy has been developed to aid in the prevention of falls of 4 feet or more. This goal will be accomplished through effective education, engineering and administrative controls, use of fall protection systems, and enforcement of the policy. This fall protection policy will be continually improved upon to prevent falls from occurring.

This policy applies to all UW-Platteville employees at all UW-Platteville locations or at work locations conducted by UW-Platteville employees in the field; wherever employees are engaged in work activities that expose them to falls of 4 feet or more.

AUTHORITY
The Department of Safety and Professional Services (DSPS) requires state agencies to comply with OSHA regulations on walking-working surfaces, personal protective equipment, and fall protection. These regulations include 29 CFR 1926.501 for construction related activities, 29 CFR 1910.23 and other parts of 1910 Subpart D, 1910.132 (a) and Section 5 (a) of the Occupational Safety and Health Act for general maintenance activities (the OSHA General Duty Clause).

OSHA requires that all floors, platforms, runways, and wall and window openings where there is a drop of 4 feet or more need to have some type of guarding. In these cases, usually a standard guardrail system is adequate. This four-foot requirement also applies to equipment that raises workers above the ground such as order pickers, scissors lifts, scaffolding, and powered platforms.

POLICY
There are separated fall protection requirements for general maintenance work activities versus construction activities (as defined in OSHA 1926.501). At UWP, the vast majority of work by UWP employees falls under maintenance fall protection requirements. However, some construction work may be performed by UWP employees.

Construction activities are those that involved major renovations, remodeling, replacement of complete systems, significant altering of structures, building, etc. “Maintenance “means keeping equipment or a structure in proper condition through routine, scheduled, or anticipated measures without having to significantly alter the structure or equipment in the process.
Each employee on a walking-working surface (horizontal and vertical surface) with an unprotected side or edge which is 4 feet or more above a lower level shall be protected from falling by the implementation of proper fall protection measures such as guardrail systems, personal fall arrest systems, or other approved method. Employees are allowed to work only on those surfaces that have the requisite strength and structural integrity to support them and their workload. Surfaces not meeting this requirement shall not be walked or worked on without proper means of protection.

Employees will not be required nor allowed to perform any duties which require the employee to get closer than 6 feet to an unprotected edge, platform or walkway of any building or other work surface, nor to utilize elevated equipment that present a potential to fall greater than 4 feet or more, unless the employee is properly secure from falling by guard rails, personal fall protection equipment, or other acceptable means.

Employees are also restricted from stepping across any floor opening greater than 12 inches when that opening is elevated 4 feet or more above a walking/working surface unless proper fall protection methods are implemented.

Note that normal working and walking surfaces at UWP including ladders (fixed or mobile scaffolding, stairs, or stands) must comply with OSHA 1910 Subpart D standards 1910.21-1910.30.

GENERAL MAINTENANCE FALL PROTECTION REQUIREMENTS
Regular and normal working and walking surfaces must comply with OSHA 1910.23 (appendix A) which, among other requirements, mandates that every open-sided floor or platform 4 feet or more above adjacent floor or ground level to be guarded by a standard railing (or the equivalent) on all open sides except where there is entrance to a ramp, stairway, or fixed ladder. Toe boards may also be required if there is potential for individuals to be struck below or other hazards created by objects falling.

However, in those circumstances where UW-Platteville employees are not in a regular and normal work area such as on a roof or potentially unprotected edge (i.e. does not have standard railing), additional fall protection measures may be necessary. Therefore, when an employee is required to be exposed to an unprotected edge (i.e. come within 6 feet of the unprotected edge) or other location that presents a potential to free fall greater than 4 feet, proper fall protection measures must be implemented. These measures may include, but are not limited to, engineering or administrative controls to eliminate the hazard, guard rails that meet OSHA requirements (either permanent or temporary), personal fall protection equipment, or other approved measures.

The following areas/situations are examples of situations that require a proper means of fall protection whenever there is potential to fall more than 4 feet:

1. Each employee on a walking/working surface with an unprotected side or edge which is 4 feet or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, personal fall arrest systems (fall protection equipment), or other approved method. Performing maintenance work within 6 feet of any unprotected sides and edges requires fall protection means to be implemented. Again, “ordinary” working/walking surfaces are to have permanent railings or other protections.
2. Roofs: roof access at UW-Platteville is closely regulated. Access doors to roofs are locked in all buildings. Only authorized individuals are allowed on roofs. Unauthorized entry to roofs is a violation of Wisconsin Administrative Code UWS 18.06(9). For maintenance work on low sloped roofs (4:12 pitch or less)-individuals must stay 6 feet away from the edge of the roof at all times or be required to implement proper fall protection measures. Work on high sloped roofs requires appropriate fall protection at all times
3. All unprotected exterior and interior equipment platforms, catwalks, antennas/towers, etc.
4. All unprotected mezzanine and balcony edges.
5. All unprotected open excavations or pits.
6. All tasks requiring use of the aerial man lifts (aerial boom lift, snorkel lift, articulating lift, aerial platforms, etc.
7. All tasks requiring leaning, stepping, or climbing outside of the protected area. For example climbing over the railing on a mezzanine, roof, catwalk, or scissors lift railings.
8. Unprotected scaffolding erections- 6 feet in height or greater.
9. Any other unprotected work- feet in height or greater.

ROOF INSPECTIONS
Roof Inspections may be carried out without full fall protection provided the SOP and JSA for UW-Platteville Roof Inspections are followed.

FALL PROTECTION SYSTEMS AND GUIDANCE
The following provides a summary of potential types of fall protection systems that could be used to comply with fall protection requirement for both maintenance and construction related activities. The information below is not intended to provide full implementation guidance for specific jobs, rather an overview of potential systems available. Fall protection system implementation requirements that are to be followed at UWP are found in OSHA 1926.502 (Appendix C).

Appropriate fall protection will be determined by the task (job) to be performed and location of the work. The type of work, location, and type of fall protection system utilized shall be documented and filed in the affected department for future reference.

Engineering/ Administrative Controls
This should always be the first option for selection whenever possible (i.e., light bulb changing: use telescoping arm, changing valve, relocate at ground level, etc.) or utilizing a compliant contractor for jobs beyond our expertise.

Guardrails
All guardrail systems will comply with the current Department of Safety and Professional Services (DSPS) OSHA/COMM standards. Permanent guardrails are a recommended means of fall protection whenever feasible. Normal working and walking surfaces must comply with OSHA 1910.23 which requires every open-sided floor or platform 4 feet or more above adjacent floor or ground level to be guarded by a standard railing (or the equivalent) on all open sides except where there is entrance to a ramp, stairway, or fixed ladder. Toe boards may also be required if there is potential for individuals to be struck below or other hazards created by objects falling. A guardrail is made up of the following elements:
• Top rail
  o Must be 39-45” above the walking/working surface.
• Mid rail
  o Must be located halfway between the top edge of the top rail and the walking/working surface.
• Posts
  o Must be placed no more than 8 feet apart. End joints must have no overhang that could snag clothing or cause employees to trip.
• Toeboard
  o Must be at least 3.5” in vertical height from their top edge to the heel of the walking/working surface.

**Personal Fall Arrest Protection Systems**

Personal fall protection systems means a personal protection equipment system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, full body harness and may include a lanyard, deceleration device, lifeline or suitable combination of these. The use of a body belt for fall arrest is prohibited.

All employees on any project that are required to wear a personal fall arrest or positioning/restraint system will follow these requirements:

1. All individuals required to wear fall protection equipment must complete training on proper use and maintenance.
2. A full body harness will be used at all times.
3. Only shock absorbing lanyards or retractable lanyards are to be used alone or in conjunction with a rope grab system so as to keep impact forces at a minimum on the body.
4. Only nylon rope with rope grab or nylon straps with locking snap hooks are to be used for positioning restraints.
5. All lanyards will have double action, self-locking snap hooks rated to 5,000 pounds.
6. Connectors are engineered for specific purposes. Make sure you are using the correct connector in the correct manor.
7. Fixed anchor points are determined and labeled where possible and are located on maps.
8. The employee will inspect all personal fall arrest equipment before each use. Any deteriorated, bent, damaged, impacted, and/or harness showing excessive wear will be given to a Competent Person who will decide if the equipment needs to be taken out of commission.
9. The maximum free fall distance is not to exceed 6 feet.
10. The employee will report all instances of falls or other stresses that occur during use to his/her supervisor so the equipment can be inspected before the next use and/or taken out of service.
11. Inclement weather, including but not limited to snow, ice, high winds or rain, pose even greater hazards during work where a potential for a fall exists, i.e. roof work. Personnel shall take additional precautions during such weather. Personnel should contact their supervisor to review additional precautions before beginning affected work. Work should not be conducted on roofs during lightning/thunderstorms.
Evaluate the total fall distance before utilizing fall protection systems

The following factors can affect total fall distance:

1. Length of connecting means (i.e., lanyard length, use of carabineers, snaphooks, etc.)
2. Position and height of anchorage relative to work platform/area (always keep above the head whenever possible)
3. Position of attachment and D-ring slide on the full body harness
4. Deployment of shock absorber (max. 42”)
5. Movement in the lifeline.
6. Initial position of worker before free fall occurs
7. Stretch and tightening of harness during a fall can add 12” or more to the fall distance

Calculating Total Fall Distance

T. Fall Distance = ft (lanyard) + ft (shock absorber) + ht of person + 3 ft

The total fall distance is the total length of shock absorbing lanyard + deceleration distance + height of the person + 3 foot safety factor above the ground, equipment, etc., at the end of the fall from the fall arrest point.

A personal fall arrest system consists of the following components:

- **Full body harness** - A full body harness consists of nylon and/or polyester straps that encompass the chest, chest and waist or full body. In the event of a fall, a full body harness distributes the fall arrest force over the pelvis, thighs, waist and shoulders. The attachment point must be in the center of the back or at the shoulder level of the wearer.

- **Lanyard** - A lanyard connects the body harness to the anchorage point. The lanyard should able attached to a D-ring on the body harness between the shoulder blades and above the employee. Lanyards may be equipped with deceleration or shock absorbing devices that limit up to 80% of the arresting force placed on the wearer during a fall. The lanyard must be of sufficient strength to withstand twice the impact energy of a person free falling 6 feet or the free-fall distance permitted by the system if the free-fall distance is less than 6 feet.

- **Lifeline** - A lifeline consists of a flexible line that is connected to the anchorage point at one or both ends which serves as means to connect other components of the personal fall arrest system to the anchorage. Self-retracting lifelines provide mobility as well as worker protection. The line retracts as the worker moves toward the unit and pulls out as the worker moves away from the unit. IF the worker slips or falls, the sudden jerk on the cable activates the breaking mechanism and the worker is brought to stop within 2 feet.

**Rope Grab**

Is a deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertia-locking, cam/level locking, or both.
Other Systems
In some situations, the installation and use of guardrails, safety nets or personal arrest systems may not be feasible or creates a greater hazard. In these cases, additional and/or other methods and systems can be used to provide fall protection (1926.501).

- **Warning Line System**: A warning line system uses ropes, wires or chains to keep employees out of areas where there are fall hazards. Warning line systems are often used on low-sloping roofs and around dangerous mechanical equipment.
  - Each line shall be flagged or otherwise clearly marked at not more than 6 foot intervals with high-visibility material
  - Each line shall be rigged and supported such that its lowest point (including sag) is not less than 39” from the walking surface and its highest point not more than 45” from walking surface.
  - After being erected, with the rope, wire or chain attached, stanchions shall be capable of resisting, without tipping over, a force of at least 16 lbs applied horizontally against the stanchion, 30” above the walking surface, perpendicular to the warning line, and in the direction of the roof.
  - The rope, wire or chain shall have a minimum tensile strength of 500 lbs.
  - Each line shall be attached at each stanchion such that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent section before the stanchion tips over.

- **Controlled Access Zones**: controlled access zones allow only employees working directly in an area to enter the zone. The CAZ must be clearly indicated by a line made of rope, wire or some other means that restricts access to the work area. When control lines are used to restrict access to an unprotected or leading edge, the line must extend along the entire length of the unprotected or leading edge. The control line must be connected on each side to a guardrail or wall.

- **Safety Monitoring System**: A safety monitoring system uses competent employees to actively observe work areas and warn other workers of any possible fall and other safety hazards. Safety monitors must not be assigned other job duties which could distract their attention away from observing the work of other employees.

INSPECTION OF FALL PROTECTION SYSTEMS
All fall protection equipment and systems must be inspected prior to each use on a regular and routine basis following manufacturer’s recommendations to ensure proper working condition. A competent person must inspect the equipment on an annual basis. This annual inspection must be documented. All users of the equipment are to be trained in proper inspection techniques. If there is evidence of excessive equipment wear or deterioration or if mechanical malfunction is detected, the item is to be removed from service.
Examples of equipment that is to be inspected include full body harnesses, lanyards, snap hooks, anchor points, guard rails, any adaptors, etc.

**PRE-WORK CHECK**

Prior to beginning work in any area or on any device where fall hazards exist, a pre-work check must be completed that includes the following items:

**Stairs**
- All required covers or guardrails must be in place
- All handrails or guardrails are in place on stairways
- All treads and risers on stairs are in good repair
- Non-slip surfaces are in place on stairs
- All stairs meet OSHA and ANSI specifications for design and safety

**Ladders**
- Gripping safety feet in place and secure on ladders
- All parts and fittings on ladders are secure
- Non-slip surfaces are in place on ladder rungs
- When setting ladder up, footing of ladder is secure on a firm, level, and non-skid surface and top of ladder is placed against a solid, stationary object.
- All ladders meet OSHA specifications (1910.25, 1910.26 for portable ladders and 1910.27 for fixed ladders) for design and safety

**Loading Dock Areas**
- Dock blocks are up and in place when dock is not in immediate use
- Only trained loaders and unloaders perform loading and unloading duties in that area
- Dock door is kept closed when a truck is not backed against it

**Platforms**
- Guardrails are in place and securely attached
- Toe boards are in place and secure
- All platforms meet OSHA specification for design and safety

**Floor and Wall Openings**
- All floor and wall openings are safely covered or blocked from access
- If not safely covered and blocked from access, the opening has someone assigned for constant attendance to it

**WORK PRACTICES**

If any one of the conditions described in Pre-Work Check is not met for the area or piece of equipment posing a potential fall hazard, then employees may not perform that work until the condition is met. If the condition cannot be remedied immediately, your supervisor must be notified of the problem.
If the situation calls for use of fall protection devices, such as harness, or positioning or restraining devices then the employee must don such protective equipment before beginning the work and use as intended throughout the duration of the work.

To prevent slipping, tripping, and falling, all places of employment, passageways, storerooms, and service rooms must be kept clean and orderly and in a sanitary condition. The floor of every workroom will be maintained in a clean and, so far as possible, dry condition. Where wet processes are used, drainage will be maintained and false floors, platforms, mats, or other dry standing places are provided where practicable.

To facilitate cleaning, every floor, working place, and passageway will be kept free from protruding nails, splinters, holes or loose boards.

**STORAGE AND MAINTENANCE OF PERSONAL FALL PROTECTION EQUIPMENT**

Below are a few guidelines to follow regarding storage and maintenance of personal fall protection equipment

1. Never store the personal fall arrest equipment in the bottom of a tool box, on the ground, or outside exposed to the elements.
2. Hang equipment in a cool dry location in a manner that retains its shape.
3. Always follow manufacturer recommendations for inspection.
4. Clean with a mild, nonabrasive soap and hang to dry.
5. Never store equipment near excessive heat, chemicals, moisture, or sunlight.
6. Never store in an area with exposures to fumes or corrosive elements
7. Avoid dirt and build-up on equipment.
8. Never use this equipment for any purpose other than personal fall arrest.
9. Once exposed to a fall, remove equipment from service immediately.
10. Ensure equipment is inspected and replaced as required. Follow manufacturer’s instructions.
11. Document annual inspections by a competent person.

**TRAINING**

Employees exposed to potential fall greater than 4 feet must receive fall protection training. Training will be coordinated by the Office of Safety and Risk Management and Supervisors.

The training policy shall enable each employee to recognize the hazards of falling and the procedures to be followed in order to minimize these hazards. The training will outline the procedures to be followed in order to minimize these hazards. The training will be conducted by a competent person qualified in the following areas:

1. The nature of fall hazards in the work area
2. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
3. The use, inspection, operation, and maintenance of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used;
4. The role of each employee in the safety monitoring systems when this system is used;
5. The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;
6. the correct procedures for the handling and storage of equipment and materials and the erection of overhead protection;
7. the role of employees in fall protection plans; and
8. the applicable OSHA standards

RESCUE PROCEDURES
At the beginning of any work activity where fall protection is required, rescue plans must be identified and discussed with all affected employees in case of a fall. The maintenance supervisor will develop the rescue plans. A method of communication must be established which provides a means for the worker to call for assistance as needed (i.e. radio communications, co-worker, phone, etc.). NOTE: If utilizing a Fall Restraint System a rescue plan is not needed because the restraint system prevents a worker from being exposed to any fall.

Rescue Methods/Operations of Fallen Personnel
In the event that a fall arrest occurs, individuals will initiate self-rescue or immediate rescue will be initiated by on-site personnel with the use of an articulating man lift, ladders, or other necessary means. Whenever needed, 911 will be called and the Platteville Fire Department will be summoned to perform emergency rescue.

Communications Issues
In the event of a fall, the following people will be notified as soon as possible:
1. Rescue personnel (i.e. maintenance personnel and Fire Department (911)
2. Maintenance supervisor and the Director of Facilities
3. Risk Management Officer

FALL INVESTIGATION
All fall investigations will be conducted by the employee’s supervisor, Risk Management Officer, and others deemed necessary. Work will not proceed until proper controls are implemented to ensure the job is safe to proceed.
The following documentation will be completed as part of the fall investigation:
1. Interviews with affected staff and witnesses
2. Employee injury/accident report
3. Supervisory injury/accident report
4. Safety coordinator review
The information will be tracked and recommendations submitted to prevent further incidents and improve the policy.
CONTRACTORS
All outside contractors working for UW-Platteville are required to follow the OSHA requirements for fall protection and worker safety while performing work for UW-Platteville. UW-Platteville will provide contractors with applicable procedure information and directives as needed.

Contractors are responsible for complying with all OSHA fall protections standards and ensuring their employees follow the requirements.

POLICY REVIEW
This fall protection policy will be evaluated periodically to determine effectiveness. The following criteria will be used to evaluate its performance;

1. Accident reports, number of accidents.
2. Management/staff compliance with policy components.
3. Periodic on-site audits.
4. Staff feedback, interviews
5. Otter such as schedule reviews

Necessary changes will be made to the policy with corresponding training as needed for affected employees.

Record of Program Updates
- 4/2016
- 10/2010
- 9/26/11