I. PURPOSE

The Eastern Michigan University (EMU) Heat Illness Prevention Plan is designed to prevent faculty, staff, student employees and students from the health effects from work environments where there is a higher risk for heat illness. This plan follows the recommendations of the National Institute for Occupational Safety and Health (NIOSH) Criteria for a Recommended Standard — *Occupational Exposure to Heat and Hot Environments.*

II. SCOPE

All EMU departments having work environments where employees may be involved in activities that include exposure to high temperatures as part of their employment are required to comply with the Heat Illness Prevention Program. This program applies to all employees (faculty, staff, student employees and students) working in either indoor or outdoor environments where exposure to high heat conditions exist.

III. DEFINITIONS

Acclimatization – is the process or result of becoming accustomed to a new climate or to new conditions.

Ambient Temperature – is the air temperature of a specific environment or object, as measured by a thermometer.

Heat Cramps – the mildest form of heat illness and consist of painful muscle cramps and spasms that occur or after intense exercise and sweating in high heat.

Heat Exhaustion – is more severe than heat cramps and results from a loss of water and salt in the body. It occurs in conditions of extreme heat and excessive sweating without adequate fluid and salt replacement. Heat exhaustion occurs when the body is unable to cool itself properly and, if left untreated, can progress to heat stroke.

Heat Illness - a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

Heat Index – also known as the apparent temperature, is a measure of how hot it feels to the human body when air temperature and relative humidity are combined. It is a common method of measuring heat stress and is measured in the shade. The

heat index Is often a better indicator of the intensity of heat and the dangers it can present to people than just the temperature.

Heat Stress – a combination of physiological strain and discomfort that occurs when the body is exposed to a hot environment, especially while working physically. It can happen when the body is unable to regulate its internal temperature.

Heat Stroke – the most severe form of heat illness, occurs when the body's heat-regulating system is overwhelmed by excessive heat. It is a life-threatening emergency and requires immediate medical attention.

Heat Syncope – is a fainting (syncope) episode or dizziness that usually occurs when standing for too long or suddenly standing up after sitting or lying. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

IV. RESPONSIBILITIES

A. Deans, Directors and Department Heads

1. Provide leadership and the management systems necessary to ensure safe working conditions are maintained in their Colleges and Departments.
2. Ensure the Heat Illness Prevention Plan is implemented as applicable.
3. Motivate and assist faculty, managers and supervisors with Heat Illness Prevention Plan compliance.
4. Require faculty, staff, graduate assistants and student employees to attend all applicable trainings.
5. Ensure all affected students receive appropriate heat illness prevention training.
6. Enforce disciplinary actions for faculty and staff violating the requirements of the Heat Illness Prevention Plan.

B. Faculty, Managers and Supervisors

1. Attend all required heat illness prevention trainings.
2. Implement the Heat Illness Prevention Plan in your area of responsibility.
3. Ensure employees, Graduate Assistance, student employees and students receive training and appropriate supplies to prevent heat illnesses.
4. Ensure acclimatization procedures are followed for new employees and returning employees.
5. Provide water, shade, air conditioning or fans indoors, work/rest schedules to prevent heat illnesses as applicable to the work environment.
6. If a heat illness occurs, once the employee has been taken care of, ensure Workers' Compensation is notified.

C. Employees and Students

1. Comply with the requirements of the Heat Illness Prevention Plan and departmental safety rules.
2. Attend all required heat illness prevention trainings.
3. Comply with requirements for hydration, work/rest break schedules, acclimatization guidelines and use personal protective equipment (PPE) as needed.
4. Report possible safety hazards and any PPE defects to your supervisor.
5. Report any and all signs and symptoms of possible heat illnesses to your co-workers if near-by and to your supervisor as soon as possible after dealing with the symptoms.

D. Environmental Health and Safety

1. Develops and updates the Heat Illness Prevention Plan.
2. Provides generic heat illness prevention training.
3. Maintains documentation of EHS provided trainings and inspections.
4. Provides consultation regarding the Heat Illness Prevention Plan as needed.
5. Liaison with outside regulatory agencies.

E. EMU Partnerships and Contractors

1. EMU Partnership Companies (Centrio, Chartwell, Gilbane, LazParking and any other future partnerships) must develop, implement and enforce their own Heat Illness Prevention Plan.
2. Contractors are responsible for developing, implementing and enforcing the requirements of the Heat Illness Prevention Plan recommendations from OSHA and NIOSH.

V. PROCEDURES

A. Supervisor and Employee Training

1. General Training Requirements
   a. Trainings must be given in a language and vocabulary the employees understand.
   b. Training must be provided prior to working outside and/or in hot indoor work environments.
   c. Trainings must be documented and the records maintained for duration of employment plus 30 years.
   d. Training documentation must include the date of the training, who performed the training, name and EMU ID number of who attended the training and the subject(s) covered.
   e. This training is required upon hiring and annual training thereafter.

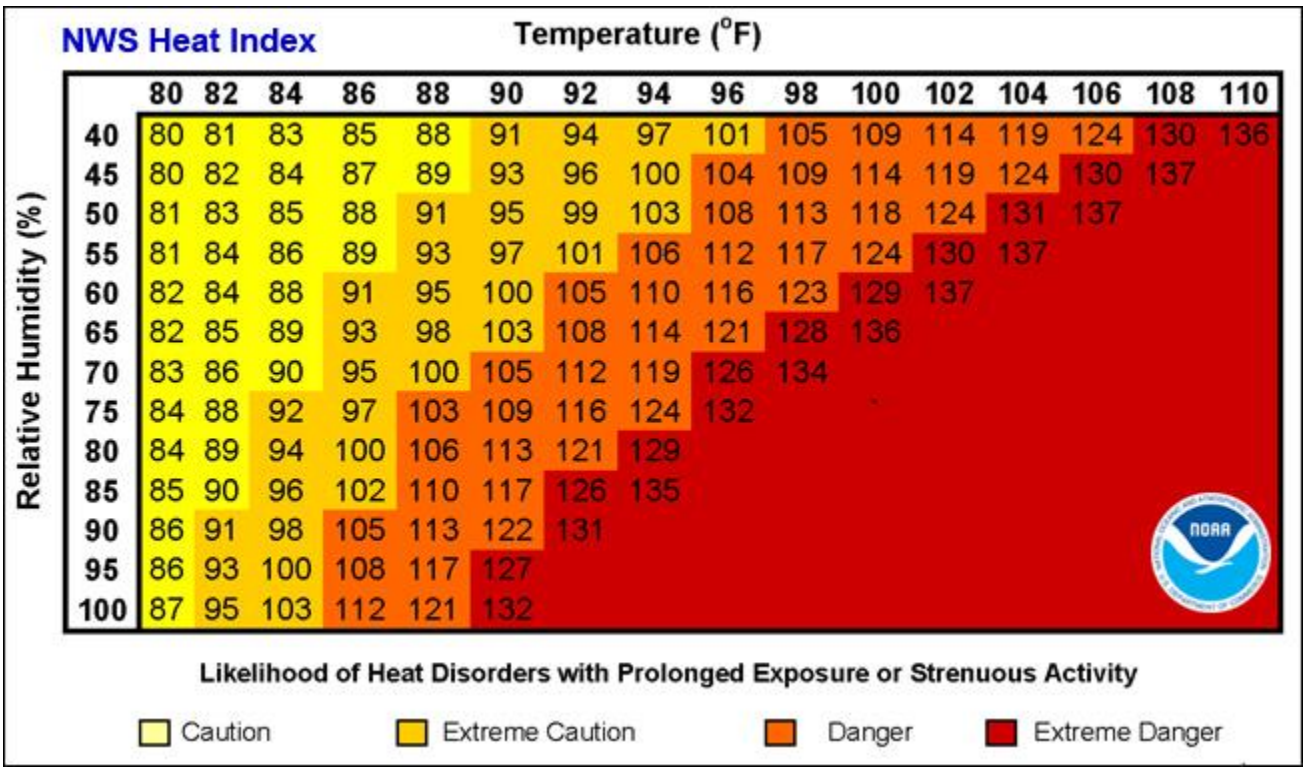
2. Supervisor Training Requirements
    a. Supervisors will be trained prior to being assigned to supervise other employees.
    b. Training will include a copy of EMU's Heat Illness Prevention Plan and the steps supervisors will follow when employees exhibit symptoms consistent with heat illness.
    c. Supervisors will be trained on their responsibility to provide water, cool areas or shade, cool-down rests, and access to first aid, as well as the employees' right to exercise their rights under this standard without retaliation.
    d. Supervisors will be trained in appropriate first aid and/or emergency response to different types of heat illness and made aware that heat illness may progress quickly from mild signs and symptoms to a serious, life-threatening illness.
    e. Supervisors will be trained on how to track the weather at the job site (by monitoring predicted temperature highs and periodically using a thermometer).
    f. Supervisors will be instructed on how weather information will be used to modify work schedules, increase the number of water and rest breaks, or cease work early if necessary.
    g. Supervisor training will include all aspects of implementing the Heat Illness Prevention Plan, including the following:
        i. providing sufficient water;
        ii. providing access to shade;
        iii. high-heat procedures;
        iv. emergency response procedures, and
        v. acclimatization procedures contained in this plan.
    h. Supervisors will also be trained on the environmental and personal risk factors of heat illness and the importance of immediately reporting signs and symptoms of heat illness.
    i. When the temperature is expected to exceed 80 degrees Fahrenheit, the supervisor will hold a short safety meeting to review the weather report, reinforce heat illness prevention with the employees, provide reminders to drink water frequently, inform them that shade will be available, and remind them to be on the lookout for signs and symptoms of heat illness.

3. Employee Training Requirements
    a. Employee training will include all aspects of implementing the Heat Illness Prevention Plan, including the following:
        i. providing sufficient water;
        ii. providing access to shade;
        iii. high-heat procedures;
        iv. emergency response procedures, and
        v. acclimatization procedures contained in this plan.

b. Employees will also be trained on the environmental and personal risk factors of heat illness and the importance of immediately reporting signs and symptoms of heat illness.
c. Employees will be trained on the steps for contacting emergency medical services, including how they are to proceed when there are non-English speaking employees, how clear and precise directions to the site will be provided and the importance of making visual contact with emergency responders at the nearest road or landmark to direct them to their worksite.
d. When feasible, new employees will be assigned a “buddy” or experienced co-worker, to ensure they understand the training and procedures.

B. Monitoring the Heat Index

1. The National Weather Service (NWS) uses the heat index (HI) to classify environmental heat into four categories:
   a. Caution ((80°F – 90°F HI)
   b. Extreme Caution (91°F – 103°F HI)
   c. Danger (103°F – 124°F HI), and
   d. Extreme Danger (126°F or higher HI)
   e. All issued by the U.S. Department of Commerce’s National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS).
   f. See the NOAA/NWS Heat Index Chart Below



g. When the Heat Index is 80°F or higher, serious occupational heat-related illnesses and injuries become more frequent, especially in workplaces where un-acclimatized workers are performing strenuous work, including but not limited to the following:
    i. intense arm and back/lifting work
    ii. carrying
    iii. shoveling
    iv. manual sawing
    v. pushing and pulling heavy loads
    vi. walking at a fast pace
    vii. without easy access to cool water
    viii. without easy access to cool/shaded areas
    ix. when working in direct sunlight or areas where other radiant heat sources are present

2. Faculty, managers and supervisors working in high temperature areas will be trained and instructed to check, in advance, the extended weather forecast.
    a. Weather forecasts can be checked with the aid of the OSHA-NIOSH Heat Safety Tool.
    b. Or by visiting the National Weather Service.
    c. Work schedules will be planned in advance, taking into consideration whether high temperatures are expected.
    d. This type of advanced planning should take place whenever the temperature is expected to reach 80 degrees Fahrenheit or higher.

3. Prior to each workday, the forecasted temperature and humidity for the worksite(s) will be reviewed and compared against the National Weather Service **Heat Index** to evaluate the risk level for heat illness.
    a. Determination will be made of whether or not employees will be exposed to a temperature and humidity characterized as either “extreme caution” or “extreme danger” for heat illnesses.
    b. Additional steps, such as those listed below, will be taken to address these hazards.

4. Prior to each workday, the supervisor will monitor the weather using either the OSHA-NIOSH Heat Safety Tool App or by using a simple thermometer at the worksite.
    a. This critical weather information will be taken into consideration to determine when it will be necessary to make modifications to the work schedule.
    b. Work schedule modifications include but are not limited to:
        i. Stopping work early
        ii. Rescheduling the job
        iii. Working at night or during the cooler hours of the day
        iv. Increasing the number of water and rest breaks

5. A thermometer will be used at the job site to monitor for a sudden increase in temperature and to ensure that once the temperature exceeds a Heat Index of

80 degrees Fahrenheit, cooling areas or shade structures will be opened and made available to the employees. In addition, **when the heat index equals or exceeds 90 degrees**, additional preventive measures, such as high-heat procedures, will be implemented.

C. Provision of Water

1. All employees will have access to drinking water. Drinking water will be available on site so that at least two quarts per employee are available at the start of the shift. If containers are used, the water level in the containers will be checked periodically and refilled if below 50% water level.

2. If large portable containers are used, paper cones or bags of disposable cups and cup dispensers will be available and kept clean until used.

3. Water will be fresh, pure, suitably cool, and provided to employees free of charge. Supervisors will visually examine the water and ensure that the water is suitably cool.

4. Water containers will be located as close as practicable to the employees work area to encourage the frequent drinking of water. If worksite factors prevent the water from being placed within a reasonable distance from the employees, bottled water or personal water containers will be made available so that employees can have drinking water readily accessible near their work area.

5. All water containers will be kept in a sanitary condition. Water from non-approved or non-tested water sources (e.g., untested wells) is not acceptable. If hoses or connections are used, they must be approved for potable drinking water systems, as shown on the manufacturer's label.

6. If working outdoors, employees will be informed of the location of the water and of the importance of drinking water frequently.

7. When the heat index exceeds, or is expected to exceed, 80 degrees Fahrenheit, brief "tailgate" meetings will be held with employees each morning to review the importance of drinking water, the number and schedule of water and rest breaks, and the signs and symptoms of heat illness.

8. When the heat index equals or exceeds 90 degrees Fahrenheit, pre-shift meetings will be conducted before the commencement of work, to both encourage employees to drink plenty of water and to remind employees of their right to take a cool-down rest when necessary. Additionally, the number of water breaks will be increased. Supervisors/foremen will lead

by example and remind employees throughout the work shift to drink water.

9. When the heat index equals or exceeds 80 degrees Fahrenheit, EMU will provide electrolyte enhanced drinks (e.g. Gatorade) or electrolyte packets to add to water.

10. Individual water containers or bottled water provided to employees will be adequately identified to eliminate the possibility of drinking from a co-worker's container or bottle.

D. Access to Cooling Areas or Shade

1. Cooling areas or shade structures will be opened and placed as close as practicable to the employees when the heat index equals or exceeds 80 degrees Fahrenheit. When the heat index is below 80 degrees Fahrenheit, access to shade will be provided promptly, when requested by an employee.
2. Enough cooling areas or shade structures will be available at the site to accommodate all of the employees who are on a break or rest period at any point in time. During meal periods, there will be enough cooling areas or shade for all employees who choose to remain in the general area of work or in areas designated for recovery and rest periods.
3. Employees will be informed of the location of the cooling areas or shade structures and will be encouraged to take a five-minute cool-down rest as needed. An employee who takes a preventative cool-down rest break will be monitored and asked if they are experiencing symptoms of heat illness. In no case will the employee be ordered back to work until signs or symptoms of heat illness have abated.
4. As outdoor crews move, shade structures will be relocated to be placed as close as practicable to the employees so that access to shade is always provided. All employees on a recovery or rest break or a meal period will have full access to shade so they can sit in a normal posture without having to be in physical contact with each other.
5. The interior of a vehicle may not be used to provide cooling areas or shade unless the vehicle is air-conditioned, and the air conditioner is on and operational.
6. For high temperature indoor locations, break or rest period locations must have air conditioning and/or fans to cool the employees.

E. High Heat Procedures

1. High Heat Procedures are additional preventive measures that will use when the heat index equals or exceeds 90 degrees Fahrenheit.
2. Effective communication by voice, direct observation, mandatory buddy system, or electronic means will be maintained so that employees at the worksite can contact a supervisor when necessary.
3. Frequent communication will be maintained with employees working by themselves or in smaller groups (via phone or two-way radio), to be on the lookout for possible symptoms of heat illness. The employee(s) will be contacted regularly and as frequently as possible throughout the day since an employee in distress may not be able to summon help on their own.
4. Effective communication and direct observation for alertness and signs and symptoms of heat illness will be conducted frequently. When the supervisor is not available, a designated alternate responsible person must be assigned to look for signs and symptoms of heat illness. If a supervisor, designated observer, or any employee reports any signs or symptoms of heat illness in any employee, the supervisor or designated person will take immediate action commensurate with the severity of the illness.
5. Employees will be reminded throughout the work shift to drink plenty of water and take preventative cool-down rest breaks when needed.
6. Pre-shift meetings will be held before the commencement of work to review the high heat procedures, encourage employees to drink plenty of water, and remind employees of their right to take a cool-down rest when necessary.
7. In addition to the procedures above, EMU will ensure high heat is addressed with the following procedures as applicable to the work conditions:
    a. Administrative Controls setting acceptable exposure times and allow for sufficient recovery by using applicable work/rest schedule changes. Examples include but are not limited to the following:
        i. During a heat wave or heat spike, the workday may be cut short (e.g., 12:00 p.m.)
        ii. Work may be rescheduled (e.g., conducted at night or during cooler hours), or if at all possible rescheduled for another day.
        iii. Implementation of mandatory 15-minute breaks every 2 hours.

b. When the heat index equals or exceeds 90 degrees Fahrenheit, EMU will provide electrolyte enhanced drinks (e.g. Gatorade) or electrolyte packets to add to water.
c. Personal cooling using air, liquid and/or ice will be encouraged.
d. Increasing ventilation, bringing in cooler outside air and using air conditioning equipment and/or fans/man coolers will be implemented as applicable to the work area.
e. Reducing the hot temperature of a radiant heat source and/or shielding the worker will be implemented as applicable to the work being conducted.
f. Local exhaust ventilation will be used to reduce process heat and water vapor release where possible.

F. Acclimatization

1. Acclimatization is the temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it over a period of time. The body needs time to adapt when temperatures rise suddenly. An employee risks heat illness by not taking it easy when a heat wave or heat spike strikes, or when starting a new job that exposes the employee to heat to which the employee's body hasn't yet adjusted.

2. Inadequate acclimatization can be significantly more perilous in conditions of high heat and physical stress.

3. The following acclimatization procedures will be followed:
   a. When indoor work is conducted under high heat temperatures and outdoor work occurs during a heat wave, the heat index will be monitored daily. The supervisor is responsible for being aware of heat waves, heat spikes or temperatures to which employees have not been exposed for several weeks or longer.
   b. New employees and those who have been newly assigned to a high heat area will be closely observed by the supervisor or designee **for the first 14 days**. The intensity of the work will be lessened during a two-week break-in period by using procedures such as scheduling slower-paced, less physically demanding work during the hot parts of the day and the heaviest work activities during the cooler parts of the day (early morning or evening). Steps taken to lessen the intensity of the workload for new employees should be documented.
   c. The supervisor or the designee will be extra vigilant with new employees and stay alert to the presence of heat-related symptoms.
   d. New employees may be assigned a "buddy," or experienced coworker, so they can watch each other closely for discomfort or symptoms of heat illness.

e. Employees will be observed closely (or maintain frequent communication via phone or radio) for possible symptoms of heat illness.
f. If feasible, supervisors will consider implementing a work schedule for new and returning employees of adding approximately 10% to the employee's workload each day from initial assignment (10% load on day 1, 20% load on day 2 etc.).

G. Heat Related Illnesses and Common Symptoms

The following describes heat related illnesses and the common symptoms of these illness. This list is NOT all inclusive.

1. Heat Stroke
   a. Confusion
   b. Slurred Speech
   c. Unconsciousness
   d. Seizures
   e. Heavy sweating or hot, dry skin
   f. Very high body temperature
   g. Rapid heart rate

2. Heat Exhaustion
   a. Fatigue
   b. Irritability
   c. Thirst
   d. Nausea or vomiting
   e. Dizziness or lightheadedness
   f. Heavy sweating
   g. Elevated body temperature or fast heart rate

3. Heat Cramps
   a. Muscle spasms or pain
   b. Usually in legs, arms or trunk

4. Heat Syncope
   a. Fainting
   b. Dizziness

5. Heat Rash
   a. Clusters of red bumps on skin
   b. Often appears on neck, upper chest and skin folds

6. Rhabdomyolysis (Muscle Breakdown)
   a. Muscle pain
   b. Dark urine or reduced urine output
   c. Weakness

7. Acute Kidney Injury (AKI)
   a. Kidneys become damaged due to inadequate blood flow or a second mechanism is rhabdomyolysis of kidney muscle tissues.
   b. Diagnosed by elevated blood creatinine levels. Urine output is also reduced.
   c. May lead to kidney failure.

H. Handling a Sick Employee

1. When an employee displays possible signs or symptoms of heat illness, a trained first aid employee or supervisor will evaluate the sick employee and determine whether resting in the shade and drinking cool water will suffice or if emergency service providers will need to be called. **DO NOT LEAVE** a sick employee alone in the shade, as they could take a turn for the worse!

2. When an employee displays possible signs or symptoms of heat illness and no trained first aid employee or supervisor is available at the site, DPS shall be called.

3. DPS will be called immediately if an employee displays signs or symptoms of severe heat illness, including but not limited to the following:
   a. decreased level of consciousness,
   b. staggering,
   c. vomiting,
   d. disorientation,
   e. irrational behavior,
   f. incoherent speech,
   g. convulsions,
   h. red and hot face,
   i. does not look okay,
   j. does not get better after drinking cool water and resting in the shade.

4. While the ambulance is in route, first aid will be initiated (i.e., cool the employee by placing the employee in the shade, removing excess layers of clothing, placing ice packs in the armpits and groin area, and fan the victim). **Do not let a sick employee leave the site, as they can get lost or die before reaching a hospital.**

I. Emergency Response

1. Employees working in areas with high heat potential will be trained in CPR, AED and first aid.

2. Managers, supervisors and employees will carry charged cell phones or other means of communication to ensure emergency medical services can

be called. If radios or other electronic means of communication are used, they will be checked to ensure proper operation.

3. When an employee shows symptom(s) of possible heat illness, emergency medical services will be called, and steps will immediately be taken to keep the stricken employee cool and comfortable to prevent the progression to more serious illness. Under no circumstances will the affected employee be left unattended.

4. All employees working under high heat conditions are empowered to implement this plan and summon emergency services.

5. During a heat wave, heat spike, or hot temperatures, employees will be reminded and encouraged to immediately report to their supervisor and/or coworkers any signs or symptoms they are experiencing.

6. DPS is the primary contact on campus for emergencies. Managers, supervisors and employees should have the DPS dispatch number 734.487.1222, programed into their phones. Calling 911 from a cell phone will reach Washtenaw County and then the call will have to be transferred to EMU DPS.

7. The Trinity Health Urgent Care at EMU is located at the corner of Oakwood and Huron River Drive.

VI. REFERENCES

1. Labor and Economic Opportunity MIOSHA Heat

VII. HISTORY

Revision	Date	Changes
0	6-2025	Original Program