

UC Santa Barbara Heat Illness Prevention Program Manual

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I. Purpose/Introduction

The purpose of the UCSB Heat Illness Prevention Program is to prevent heat related illness from occurring through education and proper work practices. This program also teaches individuals how to recognize the signs and symptoms of heat illness, and how to respond should heat related illness occur. Heat related illness is a serious medical condition that results when the body is unable to cool itself sufficiently through sweating. Both personal and environmental factors can contribute to the likelihood of developing heat related illnesses which include heat stress, heat exhaustion and ultimately, heat stroke. Heat stroke can be fatal, especially if medical treatment is delayed.

This program was written to comply with Cal/OSHA regulations for Heat Illness Prevention (CCR, Title 8, Section 3395).

II. Applicability/Scope

The UCSB Heat Illness Prevention Program, through the requirements described in this manual, establishes procedures and responsibilities for UCSB students, faculty, staff and volunteers while engaged in University related activities. This program applies to all Departments with outdoor worksites, and indoor worksites where it could be reasonably anticipated that heat related illness could occur (e.g. kitchens, boiler rooms, etc.). The Heat Illness Prevention Standard (CCR, Title 8, Section 3395) requires all employers with outdoor worksites to take certain steps which have been outlined in this document, to prevent heat illness.

III. Responsibilities

A. Department Heads and Chairs

Directors and Department Chairs are responsible for:

- Providing the necessary resources to ensure the health and safety of their employees;
- Identifying individuals as supervisors and ensuring they are trained on their health and safety responsibilities;
- Ensuring departmental compliance with campus health and safety policies and procedures;
- Ensuring hazards workplace hazards are identified and controlled.

B. Managers, Supervisors, and Principal Investigators

Supervisors of employees who perform outdoor work, or indoor work where heat related illness could reasonably be anticipated to occur, are responsible for:

- Ensuring their units understand and comply with the requirements of this program;
- Ensuring that there is a written Heat Illness Prevention Plan that covers each outdoor worksite they are responsible for (see Attachment B&C);
- Developing and implementing procedures to comply with the requirement of this program as needed;
- Ensuring employees have completed documented Heat Illness Prevention training;
- Being aware of risk factors that contribute to heat illness;
- Reducing the risk of heat illness by taking special precautions when necessary;
- Being alert for the signs and symptoms of heat illness in employees;
- Allowing employees acclimate to working in hot conditions;
- Making sure employees working in hot conditions are accounted for at the end of the work shift;

- Ensuring employees have access to potable drinking water at all times;
- Ensuring employees have the necessary Personal Protective Equipment to reduce heat stress (sun hats, light colored clothing, etc.) when needed;
- Monitoring weather conditions and implement High-heat Procedures when temperatures equal or exceed 95 degrees Fahrenheit;
- Ensuring procedures for contacting emergency medical services are in place, and if necessary, arrange for the transportation of employees to a point where they can be reached by an emergency medical provider;
- Knowing what to do and how to summon emergency responders should a heat illness emergency occur.

C. Employees, Students and Volunteers

Employees, Students and Volunteers are responsible for:

- Understanding and complying with campus health and safety policies and procedures;
- Notifying their supervisor or EH&S about any hazardous conditions observed on the worksite;
- Informing their supervisors of any factors that may increase their risk of heat related illness;
- Reporting the signs or symptoms of heat illness in themselves, or others, to their supervisor or EH&S immediately.

D. Environmental, Health and Safety (EH&S)

The UCSB Heat Illness Prevention Program is administered by EH&S. EH&S will function as a technical resource to departments and will assist them in carrying out their responsibilities as necessary. Specifically, EH&S is responsible for:

- Developing and maintaining the UCSB Heat Illness Prevention Program and ensuring it meets all applicable regulatory requirements;
- Developing and providing Heat Illness Prevention training.
- Updating the UCSB Heat Illness Prevention Program and other written materials as regulations or University requirements change.

IV. Definitions

Acclimatization - means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

Environmental Risk Factors - means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

Heat Illness - means 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 Wave - means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days.

Personal Risk Factors - means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

Shade - means blockage of direct sunlight. Shade is considered sufficient when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning. Shade may be provided by any natural or artificial means as long as it does not expose employees to unsafe or unhealthy conditions, or deter or discourage access or use.

Temperature - means the dry bulb temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the bulb or sensor of the thermometer should be shielded while taking the measurement, e.g., with the hand or some other object, from direct contact by sunlight.

V. Types of Heat Illness, Risk Factors and At Risk Employees

A. Types of Heat Illness and First Aid

There are several types of heat-related illness. The following sections will explain the symptoms, causes and first aid procedures for each type of heat-related illness. All signs or symptoms of heat illness should be reported to a supervisor immediately. If a supervisor observes, or any employee reports, any signs or symptoms of heat illness in an employee, the supervisor shall take immediate action commensurate with the severity of the illness. If the signs or symptoms are indicators of severe heat illness (such as, but not limited to, decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions), emergency response procedures shall be implemented. An employee exhibiting signs or symptoms of heat illness shall be monitored and shall not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services.

Heat Stroke

Heat stroke is the most serious heat-related disorder. It occurs when the body becomes unable to control its temperature; the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature can rise to 106 degrees Fahrenheit or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

Heat Stroke Symptoms:

- Hot, dry skin or profuse sweating
- Hallucinations
- Chills
- Throbbing headache
- High body temperature
- Confusion/dizziness
- Slurred speech

Heat Stroke First Aid:

- Contact emergency medical services and notify supervisor.

- Move the individual to a cool, shaded or air conditioned area.
- Cool the individual using methods such as:
 - Loosening or removing clothing
 - Soaking their clothes with water.
 - Spraying, sponging, or showering them with water.
 - Fanning their body.

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment.

Heat Exhaustion Symptoms:

- Heavy sweating
- Extreme weakness or fatigue
- Dizziness, confusion
- Nausea
- Clammy, moist skin
- Pale or flushed complexion
- Muscle cramps
- Slightly elevated body temperature
- Fast and shallow breathing

Heat Exhaustion First Aid:

- Contact emergency medical services and notify supervisor.
- Move individual to a cool, shaded or air conditioned area and allow them to rest.
- Encourage individual to drink water or other cool, nonalcoholic and non-caffeinated beverages.
- Cool the individual using methods such as:
 - Loosening or removing clothing
 - Soaking their clothes with water.
 - Spraying, sponging, or showering them with water.
 - Fanning their body.

Heat Syncope

Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

Heat Syncope Symptoms:

- Light-headedness
- Dizziness
- Fainting

Heat Syncope First Aid:

- Contact emergency medical services and notify supervisor.
- Have individual sit or lie down in a cool, shaded or air conditioned area and allow them to rest.
- Encourage individual to drink water or other cool, nonalcoholic and non-caffeinated beverages.

Heat Cramps

Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

Heat Cramp Symptoms:

- Muscle pain or spasms usually in the abdomen, arms, or legs.

Heat Cramp First Aid:

- Stop all activity, and sit in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous work for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention if any of the following apply:
 - The worker has heart problems.
 - The worker is on a low-sodium diet.
 - The cramps do not subside within one hour.

Heat Rash

Heat rash occurs when sweat ducts become clogged and the sweat can't get to the surface of the skin. Instead, it becomes trapped beneath the skin's surface causing a mild inflammation or rash.

Heat Rash Symptoms:

- Heat rash looks like a red cluster of pimples or small blisters.
- It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

Heat Rash First Aid:

- Work in a cooler, less humid environment when possible.
- Keep the affected area dry.
- Dusting powder may be used to increase comfort.

B. Personal and Environmental Risk Factors

There are a number of factors that can increase the likelihood of an individual experiencing heat related illness. Often heat illness is a result of a combination of environmental and personal risk factors.

Environmental Risk Factors

Environmental risk factors are working conditions that increase the likelihood of a person experiencing heat related illness. They include:

- Warm temperatures
- High humidity
- Direct exposure to the sun or other heat sources
- Limited air movement

Personal Risk Factors

Personal factors affect how well an individual responds to heat. They include:

- Age, weight, and physical condition
- Degree of acclimatization
- Consumption of water, alcohol, drugs and caffeine
- Use of medications that affect tolerance to heat

Job Related Risk Factors

An individual's job duties may increase the likelihood of experiencing heat related illness, such as:

- Physical exertion and duration
- Protective clothing and protective equipment worn by employees

C. At Risk Employees

Although UCSB typically enjoys a mild climate, there are times when environmental conditions may increase the risk of heat related illness. The following are examples of groups of employees who may be susceptible to these conditions:

- Athletics Staff
- Delivery Personnel
- Emergency Response Personnel
- Events Staff
- Facilities Management Employees
- Field Researchers
- Groundskeepers
- Hazardous Materials Workers
- Kitchen Staff
- Housing Services Employees
- Natural Reserve System Employees
- Parking Services Employees
- Police Officers
- Transportation Services Employees
- Other individuals not listed who work outdoors, or in indoor areas where heat stress is likely to occur (kitchens, boiler rooms, etc.).

VI. Heat Illness Prevention Procedures

Departments and their supervisors are responsible for developing, implementing, and maintaining, effective procedures to reduce the risk of heat related illness. These procedures shall be in writing and include specific heat illness prevention measures and emergency response procedures for each worksite location. Supervisors and employees should review their procedures on a regular basis, and update them as needed. Environmental, Health & Safety (EH&S) is available, upon request, to help evaluate job tasks, procedures and environmental conditions.

A. Heat Illness Prevention Plan

A Heat Illness Prevention Plan shall be developed and implemented at each outdoor worksite, and indoor worksites, where it could be reasonably anticipated that heat related illness could occur. The plan shall be in writing in both English and the language understood by the majority of the employees and shall be made available at the worksite to employees and to

representatives of the Division upon request. The Heat Illness Prevention Plan at a minimum shall contain:

- Procedures for the provision of water and access to shade;
- Acclimatization procedures;
- Emergency Response Procedures;
- High heat procedures, where applicable.

To assist Departments and Supervisors in meeting these requirements EH&S has developed the UCSB Campus Heat Illness Prevention Plan (Attachment B) which covers most on-campus worksites, and a Worksite Specific Heat Illness Prevention Plan Worksheet (Attachment C) for off-campus locations and other locations not adequately covered by the campus plan.

Supervisors must ensure that there is a written Heat Illness Prevention Plan for each worksite under their responsibility, and employees covered by the plan have review it and are trained on its procedures prior to commencing outdoor work.

B. Heat Illness Prevention Measures

Supervisors are responsible for developing procedures for the following measures and ensuring they are implemented, as appropriate, to help prevent heat illness among employees:

Monitor Weather Conditions

Supervisors are responsible for monitoring weather conditions and scheduling work appropriately. All employees shall be closely observed by a supervisor or designee during a heat wave. Make sure to monitor the weather at the specific location(s) where work activities are occurring. Prior to each workday, have a designated person check the weather forecast in the areas of work activities. The weather can be monitored by using local radio and television stations, websites, and electronic or other devices. See the References and Resources section for some specific weather monitoring resources.

Work Scheduling

There is no absolute temperature cutoff, below which, heat illness ceases to be a risk. Heavy work conducted in high humidity, especially if workers are wearing protective clothing or are not acclimated, can present a risk even at ambient temperatures of 70°F or below. Whenever possible, schedule outdoor work during cooler times of the day to reduce the risk of heat illness.

Acclimatization

Acclimatization is a process by which the body adjusts to increased heat exposure. Employees are more likely to develop heat related illness if they not allowed or encouraged to take it easy when a heat wave strikes, or when they start a new job that exposes them to heat. Cal/OSHA reported that 80% of the heat illness cases investigated in 2005 involved employees that had been on the job for fewer than 4 days; 46% of the incidents occurred on the worker's first day on the job. Acclimatization is fully achieved in most people within 4 to 14 days of regular work involving at least 2 hours per day in the heat.

Drinking Water

Supervisors shall ensure employees have access to potable drinking water at all times. Drinking water shall be fresh, pure, suitably cool, and provided to employees free of charge. The water shall be located as close as practicable to the areas where employees are working. Where drinking water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour

for drinking for the entire shift. Employers may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour. The frequent drinking of water shall be encouraged.

Rest Breaks

Employees shall be allowed and encouraged to take a preventative cool-down rest in the shade for a period of no less than five minutes at a time when they feel the need to do so to protect themselves from overheating. An individual employee who takes a preventative cool-down rest (A) shall be monitored and asked if he or she is experiencing symptoms of heat illness; (B) shall be encouraged to remain in the shade; and (C) shall not be ordered back to work until any signs or symptoms of heat illness have abated, but in no event less than 5 minutes in addition to the time needed to access the shade.

Shade

Supervisors shall ensure shade is available to their employees when the temperature exceeds 80 degrees Fahrenheit, and upon employee request when temperatures are below 80 degrees Fahrenheit. When the outdoor temperature in the work area exceeds 80 degrees Fahrenheit, the employer shall have and maintain one or more areas with shade at all times while employees are present that are either open to the air or provided with ventilation or cooling. The amount of shade present shall be at least enough to accommodate the number of employees on recovery or rest periods, so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other. The shade shall be located as close as practicable to the areas where employees are working. Subject to the same specifications, the amount of shade present during meal periods shall be at least enough to accommodate the number of employees on the meal period who remain onsite.

Training

Documented Heat Illness Training covering the requirements in Section VII of this document shall be provided to all applicable workers before they begin work in hot environments.

Employee Monitoring

Supervisors should continuously monitor employees closely for signs and symptoms of heat illness. During heat waves and with new employees, supervisors must be extra-vigilant. All employees shall be closely observed by a supervisor or designee during a heat wave. A "heat wave" means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days. An employee who has been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

C. Emergency Response Procedures

As part of their written Heat Illness Prevention Plan, departments and supervisors shall develop and implement effective worksite emergency response procedures. Emergency response procedures shall include:

1. How effective communication by voice, observation, or electronic means will be maintained so that employees at the work site can contact a supervisor or emergency medical services when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable.

If an electronic device will not furnish reliable communication in the work area, the employer will ensure a means of summoning emergency medical services.

2. How to respond to signs and symptoms of possible heat illness, including but not limited to first aid measures and how emergency medical services will be provided.
3. How to contact emergency medical services and, if necessary, how employees will be transported to a place where they can be reached by an emergency medical provider.
4. How in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

In non-remote areas throughout the United States, emergency medical services are generally available by calling 911. Supervisors are to ensure that employees are able to provide clear concise directions to their worksite. In remote field locations, developing procedures for emergency medical services may require extensive planning, and supervisors must ensure employees are informed of exactly how and where medical attention may be received. Always make sure employees have communication means and knowledge of how to guide emergency services to their location.

If a supervisor observes, or any employee reports, any signs or symptoms of heat illness in an employee, the supervisor shall take immediate action commensurate with the severity of the illness. If the signs or symptoms are indicators of severe heat illness (such as, but not limited to, decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions), emergency response procedures shall be implemented. An employee exhibiting signs or symptoms of heat illness shall be monitored and shall not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services. Supervisors must reiterate to all employees the importance of immediately reporting any symptoms or signs of heat illness in themselves or co-workers and remind employees what to do in case emergency medical treatment is needed.

On-campus procedures for responding to heat illness:

- Dial 893-3446 for campus police dispatch or 911 (9-911 from a campus phone) for emergency medical help;
- Tell the dispatcher this is a heat related illness;
- Provide information on the exact location of the incident using maps and building information which are readily displayed around campus if necessary.
- Provide first aid to victim until emergency responders arrive
- Notify your supervisor and contact UCSB Workers' Compensation at 893-4440

D. High-heat Procedures

High-heat procedures are only required for workers who perform jobs in the industries listed below. However, it is recommended that similar procedures be implemented for non-required industries to reduce the risk of heat related illness whenever possible.

- Agriculture
- Construction
- Landscaping
- Oil and gas extraction
- Transportation or delivery of agricultural products, construction materials or other heavy materials (e.g. furniture, lumber, freight, cargo, cabinets, industrial or commercial materials), except for employment that consists of operating an air-conditioned vehicle and does not include loading or unloading.

Supervisors of employees that fall under the categories list above shall implement high-heat procedures when the temperature equals or exceeds 95 degrees Fahrenheit. These procedures must include the following to the extent practicable:

1. Scheduling work during the cooler hours of the day, or if possible postponing work until ambient temperatures decrease.
2. Ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable.
3. Remind employees throughout the work shift to drink plenty of water.
4. Designating one or more employees on each worksite as authorized to call for emergency medical services, and allowing other employees to call for emergency services when no designated employee is available.
5. Pre-shift meetings 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.
6. Observing employees for alertness and signs or symptoms of heat illness. The employer shall ensure effective employee observation/monitoring by implementing one or more of the following:
 - a. Supervisor or designee observation of 20 or fewer employees, or
 - b. Mandatory buddy system, or
 - c. Regular communication with sole employee such as by radio or cellular phone, or
 - d. Other effective means of observation.
7. For employees employed in agriculture, the following shall also apply: When temperatures reach 95 degrees or above, the employer shall ensure that the employee takes a minimum ten minute net preventative cool-down rest period every two hours. The preventative cool-down rest period required by this paragraph may be provided concurrently with any other meal or rest period required by Industrial Welfare Commission Order No. 14 (8 CCR 11140) if the timing of the preventative cool-down rest period coincides with a required meal or rest period thus resulting in no additional preventative cool-down rest period required in an eight hour workday. If the workday will extend beyond eight hours, then an additional preventative cool-down rest period will be required at the conclusion of the eighth hour of work; and if the workday extends beyond ten hours, then another preventative cool-down rest period will be required at the conclusion of the tenth hour and so on. For purposes of this section, preventative cool-down rest period has the same meaning as "recovery period" in Labor Code Section 226.7(a)

VII. Training Requirements

Departments shall ensure effective documented Heat Illness Prevention Training meeting the requirements below is provided to all employees, and supervisors of employees, who perform outdoor work, or indoor work where heat related illness could reasonably be anticipated to occur.

A. General Heat Illness Training Requirements

All employees, supervisory and non-supervisory, shall receive training on the following:

- The Department's procedures for complying with the requirements of this standard, including, but not limited to, the Department's responsibility to provide water, shade,

cool-down rests, and access to first aid as well as the employees' right to exercise their rights under this standard without retaliation;

- The different types of heat illness, and the common signs and symptoms of heat illness, and appropriate first aid and/or emergency responses to the different types of heat illness, and in addition, that heat illness may progress quickly from mild symptoms and signs to serious and life threatening illness;
- The environmental and personal risk factors for heat illness, as well as the added burden of heat load on the body caused by exertion, clothing, and personal protective equipment;
- The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties;
- Procedures for the provision of water and access to shade;
- The concept, importance, and methods of acclimatization.
- The importance of immediately reporting the symptoms or signs of heat illness in themselves, or in co-workers;
- The Department's procedures for responding to signs or symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary;
- Procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders. These procedures shall include designating a person to be available to ensure that emergency procedures are invoked when appropriate.
- Special procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider;
- High heat procedures, if applicable.

B. Additional Supervisor Heat Illness Training

Prior to supervising employees who perform outdoor work, or indoor work where heat related illness could reasonably be anticipated to occur, Departments shall ensure their supervisors receive effective documented training on the following topics:

- Supervisory requirements and responsibilities under the UCSB Heat Illness Prevention Program and Heat Illness Prevention Standard;
- The procedures the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures;
- How to monitor weather reports and how to respond to hot weather advisories.

C. Training Resources

UCSB Heat Illness Prevention Training - Login to UCSB Learning Center (<https://www.learningcenter.ucsb.edu/>) and search for "Heat Illness" or "IH15"

Cal/OSHA Heat-Related Illness Prevention and Information (<http://www.dir.ca.gov/dosh/heatillnessinfo.html>)

Cal/OSHA Heat Illness Prevention Standard - California Code of Regulations, Title 8, Section 3395, California Department of Industrial Relations (<http://www.dir.ca.gov/title8/3395.html>)

VIII. Record Keeping Requirements

A. Training

Departments shall retain training records for at least ten years after the person has retired or left University employment. Training completed or recorded on the Learning Management System (LMS) is kept indefinitely.

IX. References and Resources

Cal/OSHA Heat Illness Prevention Standard - California Code of Regulations, Title 8, Section 3395, California Department of Industrial Relations (<http://www.dir.ca.gov/title8/3395.html>)

Cal/OSHA Heat-Related Illness Prevention and Information
(<http://www.dir.ca.gov/dosh/heatillnessinfo.html>)

UCSB Heat Illness Prevention Training - Login to UCSB Learning Center (<https://www.learningcenter.ucsb.edu/>) and search for “Heat Illness” or “IH15”

NOAA Heat Wave Resources
(<http://www.nws.noaa.gov/om/heat/index.shtml>)

NOAA Heat Index Chart
(http://www.nws.noaa.gov/om/heat/heat_index.shtml)

NOAA Weather Information and Forecasting
(<http://www.noaa.gov/wx.html>)

Weather Underground Information and Forecasting
(<http://www.wunderground.com/>)

X. Issued By and Next Review Date

Issued by: Jesse Bickley, Industrial Hygiene Program Manager
Date: January 23, 2018
Review Date: Annually

XI. Attachments

Attachment A: UCSB Heat Illness Prevention Program Checklist
Attachment B: UCSB Campus Heat Illness Prevention Plan
Attachment C: UCSB Worksite Specific Heat Illness Prevention Plan Worksheet

Attachment A

UCSB Heat Illness Prevention Program Compliance Checklist

Department/Unit: _____ Supervisor: _____

Completed by: _____ Date: _____

Heat Illness Program Applicability			
Question	Yes	No	Action Required
Do employees perform work outdoors, or in indoor areas where Heat Illness is likely to occur?	<input type="checkbox"/>	<input type="checkbox"/>	If no , stop. Heat Illness Prevention Program not required.
Training			
Have employees received documented Heat Illness Prevention Training?	<input type="checkbox"/>	<input type="checkbox"/>	If no , ensure employees receive Heat Illness Prevention Training (available on UCSB Learning Management Center).
Have supervisors received documented Supervisor Heat Illness Prevention Training?	<input type="checkbox"/>	<input type="checkbox"/>	If no , ensure supervisor receive documented Supervisor Heat Illness Prevention Training (available through EHS).
Have employees and supervisors reviewed the UCSB Heat Illness Prevention Program Manual?	<input type="checkbox"/>	<input type="checkbox"/>	If no , direct individuals to review the UCSB Heat Illness Prevention Program Manual.
Water			
Do employees have access to sufficient drinking water? (At least one quart per employee per hour for drinking for the entire shift.)	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop and implement procedures for providing access to sufficient drinking water.
Cool-down Breaks and Shade			
Are employees who take preventative cool-down breaks monitored and asked if they are experiencing symptoms of heat illness, and if so, encouraged to remain in shade until all signs or symptoms of heat illness are abated?	<input type="checkbox"/>	<input type="checkbox"/>	If no , employees shall be encouraged to remain in the shade until any signs or symptoms of heat illness have abated (no less than 5 minutes in addition to the time needed to access the shade).
Do employees have access to shade when temperatures exceed 80F? (Shade means the blockage of direct sunlight. Shade is not considered adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool (e.g. sitting in a hot car). Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions, or discourage its use.)	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop and implement procedures to ensure shade is provided.
Heat Illness Prevention Plan			
Do employees perform outdoor work off-campus, or in other areas not adequately covered by the UCSB Campus Heat Illness Prevention Plan?	<input type="checkbox"/>	<input type="checkbox"/>	If yes , develop Worksite Specific Heat Illness Prevention Plans using the worksheet provided by EH&S.
Have employees covered by the Heat Illness Prevention Plan review it, and been trained on its procedures?	<input type="checkbox"/>	<input type="checkbox"/>	If no , ensure employees review the Heat Illness Prevention Plan and are properly trained on its procedures.

Work Scheduling and Acclimation			
Question	Yes	No	Action Required
Do supervisors monitor weather conditions, and when possible schedule outdoor work during cooler times of the day to reduce the risk of heat illness?	<input type="checkbox"/>	<input type="checkbox"/>	If no , ensure supervisors monitor weather conditions and scheduling work appropriately.
Are employees given time to acclimate to their environment? (Gradually exposed to regular working conditions for a least four to fourteen days for at least two hours per day in the heat.)	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop procedures to ensure employee(s) are acclimated prior to performing strenuous work in heat.
Are employees closely observed by a supervisor or designee during a heat wave (any day in which the predicted high temperature for the day will be at least 80F and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days)?	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop procedures to closely observe employees during a heat wave.
Are employees who have been newly assigned to a high heat area closely observed by a supervisor or designee for the first 14 days of the employee's employment?	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop procedures to closely observe employees during the first 14 days of their employment.
Emergency Medical Procedures			
If an employee exhibits signs or reports symptoms of heat illness while taking a preventative cool-down rest or during a preventative cool-down rest period, are there procedures in place to ensure appropriate first aid or emergency response is provided?	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop first aid and emergency response procedures. Special procedures may be necessary for remote/off-site workers.
Are there established procedures for ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor or emergency medical services when necessary? (An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable. If an electronic device will not furnish reliable communication in the work area, the supervisor shall ensure other means of summoning emergency medical services are available.)	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop effective communication procedures. Special procedures may be necessary for remote/off-site workers.
Are there established procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider?	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop procedures. Special procedures may be necessary for remote/off-site workers.
Are there established procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders? These procedures shall include designating a person to be available to ensure that emergency procedures are invoked when appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop procedures. Special procedures may be necessary for remote/off-site workers.
Have employees been trained on these procedures?	<input type="checkbox"/>	<input type="checkbox"/>	If no , train employees on Emergency Response Procedures.

High Heat Procedures (only required for agricultural, construction, landscaping and transportation workers when temperatures exceed 95° F)			
Question	Yes	No	Action Required
Do employees perform agricultural work, construction, landscaping, or transportation and loading/unloading of heavy goods?	<input type="checkbox"/>	<input type="checkbox"/>	If yes , High Heat Procedures must be implemented when temperatures exceed 95° F. (See High Heat Procedures section below.) If no , High Heat Procedures not required to be implemented but are recommended to be used as needed to ensure employees' safety.
Are pre-shift meetings 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?	<input type="checkbox"/>	<input type="checkbox"/>	If no , conduct pre-shift meeting as necessary.
Are employees monitored by implementing one or more of the following: a) Supervisor or designee observation of 20 or fewer employees, or b) Mandatory buddy system, or c) Regular communication with sole employee such as by radio or cellular phone, or d) Other effective means of observation.	<input type="checkbox"/>	<input type="checkbox"/>	If no , develop procedures to closely monitor employees when temperatures exceed 95° F.
Are one or more employees on each worksite designated as authorized to call for emergency medical services?	<input type="checkbox"/>	<input type="checkbox"/>	If no , ensure one or more employees are designated as authorized to call for emergency medical services.
Are employees reminded to drink plenty of water throughout the work shift?	<input type="checkbox"/>	<input type="checkbox"/>	If no , ensure employees are reminded to drink plenty of water.
Notes			

Attachment B

UCSB Heat Illness Prevention Plan

The UCSB Heat Illness Prevention Plan was developed to cover most outdoor workplaces located on the main campus. Supervisors must develop a Worksite Specific Heat Illness Prevention Plan for off campus locations, and/or additional procedures, as needed, to ensure the health and safety of their employees. Employees covered by this plan shall review it and be trained on its specific procedures prior to commencing outdoor work.

Worksite Description/Location: UCSB Main Campus, Santa Barbara CA

Completed by: UCSB Environmental Health and Safety (EH&S) **Date:** January 21st, 2018

Access to Water
Plumbed drinking water is readily available to employees in most campus locations from drinking fountains and water fixtures in buildings. If plumbed drinking water is not available at a worksite, supervisors shall develop written procedures and ensure they are implemented, so that water is provided in sufficient quantity (at least one quart per employee per hour for the entire shift).
Access to Shade
Shade provided by building structures and trees is readily available to employees in most locations on campus. If shade is not available at a worksite, supervisors shall develop written procedures for providing adequate shade and ensure they are implemented when temperatures exceed 80F. Enough shade shall be provided to accommodate all employees during recovery or rest periods, so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other. Shade shall be located as close as practicable to the areas where employees are working.
Acclimatization Methods and Procedures
All employees shall be closely observed by a supervisor or designee during a heat wave. A “heat wave” means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit, and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days. Employees who have been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of the employee's employment.
First Aid and Emergency Response Procedures
<p>If any signs or symptoms of heat illness are observed or reported, immediate action commensurate with the severity of the illness shall be taken (such as, but not limited to; notifying a supervisor, providing first aid, initiating emergency response). If the signs or symptoms are indicators of severe heat illness (such as, but not limited to; decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions), emergency response procedures shall be implemented. An employee exhibiting signs or symptoms of heat illness shall be monitored, and shall not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services.</p> <p>Campus phones and cellular service are both readily available on campus. Additionally, many departments that have employees who perform work in isolated locations issue two-way radios to their employees which can be used to hail supervisors or other employees in emergency situations.</p> <p>On-campus emergency response procedures for heat related illness:</p> <ul style="list-style-type: none"> • Dial 893-3446 for campus police dispatch, or 911 (9-911 from a campus phone) for emergency medical help; • Tell the dispatcher this is a heat related illness; • Provide information on your exact location using maps and/or building information, which are readily displayed around campus; • Provide first aid to victim until emergency responders arrive; • Notify your supervisor and contact UCSB Workers' Compensation at 893-4440.
High Heat Procedures (only required for agricultural, construction, landscaping and transportation workers when temperatures exceed 95F)
Supervisors of employees that fall under the categories listed above shall develop written High Heat Procedures and ensure they are implemented when the temperature equals or exceeds 95 degrees Fahrenheit.
Notes

Attachment C

UCSB Worksite Specific Heat Illness Prevention Plan

Supervisors shall develop and implement a Worksite Specific Heat Illness Prevention Plan for off campus outdoor worksites, and other worksites not adequately covered by the Campus Heat Illness Prevention Plan. Employees covered by this plan shall review it and be trained on its specific procedures prior to commencing outdoor work.

Department/Unit: _____ Supervisor: _____

Worksite Description/Location: _____

Completed by: _____ Date: _____

How will employees be provided access to sufficient drinking water? (At least one quart required per employee per hour)

- Plumbed water
- Water cooler
- Bottled water
- Other (describe below):

How will employees be provided access to adequate shade when temperatures exceed 80F? Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions. Shade is not considered adequate when heat in the area does not allow the body to cool (e.g. sitting in a hot car).

- Buildings or other manmade structures
- Trees
- Temporary Canopy or Tarp
- Vehicle with A/C
- Other (describe below):

Acclimatization Methods and Procedures

All employees shall be closely observed by a supervisor or designee during a heat wave. For purposes of this section only, "heat wave" means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days. An employee who has been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

Emergency Medical Procedures

How will effective communication by voice, observation, or electronic means be maintained so that employees at the worksite can contact their supervisor or emergency medical services when necessary? (An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable. If an electronic device will not furnish reliable communication in the work area, supervisors must ensure some other means of summoning emergency medical services is available.)

What are the procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider?

What are the procedures for ensuring that in the event of an emergency, clear and precise directions to the worksite will be provided to emergency responders? (Attach maps and other documents as needed.)

Who is the designated person who will ensure that emergency procedures are invoked when appropriate?

High Heat Procedures (only required for agricultural, construction, landscaping and transportation workers when temperatures exceed 95F)

How will supervisors monitor weather conditions and ensure High Heat Procedures are implemented when temperatures meet or exceed 95F?

Who will conduct pre-shift meetings 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?

How will employees be monitored for alertness and signs or symptoms of heat illness?
 Direct supervision Buddy system Reliable cell or radio contact Other, describe below:

Who has designated to call for emergency medical services if needed? Who will call if they are not available?

Who is in charge of reminding employees throughout the work shift to drink plenty of water?

Worksite Specific Heat Illness Prevention Plan Review and Training Documentation (to be completed by employees covered by the plan)

I certify that I have reviewed the above Heat Illness Prevention Plan for my worksite and have received adequate training on its implementation.

Employee Name	Employee Signature	Date