

## UCCS Indoor Air Quality Guide

Indoor air quality is a concern in the workplace due to the emissions associated with various operations on campus. Proper indoor air quality is maintained through proper air turnover and good maintenance of the building's air handling units. However, there are sometimes unforeseen circumstances that can cause poor air quality in your workplace. Some possible causes are listed below.

### Possible physical (personal) causes:

- Ergonomic stressors (*i.e.*, improper work station design or use)
- Personal factors, such as stress at work or home, allergies, etc.
- Pet dander carried on clothing (self or other workers in the area)
- Crowded rooms
- Odors from perfumes, colognes, candles or incense diffusers.

### Possible biological causes:

- Mold growth indoors - usually preceded by a water-intrusion event (*e.g.*, broken pipe, infiltration of rain or melting snow, sewer backup, etc.).
- Fungi - may cause or exacerbate allergy symptoms and can be found in dying office plants or in other places with mold.

### Possible building related (non-biological) causes:

- Dusts and odors (*e.g. paint, tar, etc.*) from construction or renovation projects that may be occurring inside or outside the building
- Migration of odors or fumes from other work locations within the building
- Inadequate air circulation, temperature and humidity control, lighting or glare
- High concentration of office equipment (*i.e., copiers, printers, etc.*) in small or poorly ventilated work areas
- Odors from cleaners or air fresheners
- Circulation of exterior vehicle exhaust through building openings
- Animal, bird or insect droppings or similar related problems
- Dry sewage drain traps causing sewer gasses to backup into occupied areas
- Noise and vibration
- Off gassing from new furnishings, carpets, etc.

### Reporting Instructions

- Water intrusion events: IMMEDIATELY contact Facilities at (719) 255-3313. To the extent known, include information on the source, approximate quantity, affected areas, water-damaged materials, and if the source has been controlled.
- Sewage backflow events: IMMEDIATELY contact Facilities Management at (719) 255-3313 (after hours: Police Dispatch at 255-3111). Do not attempt to clean or remove affected materials, allow Facilities to manage the response.
- IAQ problems **without** related health symptoms: [Submit an online Work Request](#), or call Facilities Management at (719) 255-3313 to report the problem.
- IAQ complaint **with** related health symptoms: contact [EH&S](#) at (719) 255-3201 to report the problem.

### What you can do to avoid IAQ problems

- Do not block or shut vents or building returns.
- Observe the UCCS Smoking policy that prohibits smoking anywhere other than [designated areas](#).
- Do not dispose of food waste or food wrappers in your work area. Dispose of contaminated waste in receptacles that are emptied daily.

- Do not over-water plants. Remove dead leaves and break up dirt around the plant to avoid mold growth.
- Clean up water spills immediately.
- Minimize accumulations of paper, cardboard, etc.
- Avoid concentrating electronic office equipment, including printers, copiers, monitors, etc. within offices or other small or unventilated locations.
- Report rodent or insect problems to [Facilities Management](#).
- Allow new furnishings to off-gas before placing them in your work area.

### **IAQ Investigation and Remediation**

If you have mitigated all potential issues in your control and are still experiencing issues, an investigation can be requested. In general, investigation and remediation is a joint effort between Facilities Management, EH&S, and the person(s) reporting the problem. The investigation will be conducted, which consists of occupant interviews, on-site physical inspection, and testing. Both departments will do their best to remedy the issue quickly, but in complex situations, it may take more time to resolve.

If an investigation is requested, EHS will perform atmospheric monitoring on the space to ensure occupants are safe to continue occupying an area. Below are the atmospheric conditions that will be monitored and evaluated by EHS.

#### **CARBON MONOXIDE**

Carbon Monoxide (CO) is a poisonous waste gas resulting from the incomplete combustion of carbon fuels including charcoal, diesel, gasoline, and propane. The safe occupational exposure limit for CO is 25 ppm; and the Immediately Dangerous to Life and Health (IDLH) concentration is 1,200 ppm. Signs and symptoms of CO overexposure include headache, nausea, weakness, dizziness, mental confusion, hallucinations, cyanosis, and death. In cases of suspected overexposure, shut off the equipment, evacuate the area, and contact public safety immediately.

UCCS has permanent CO monitors in locations with a high probability of elevated levels of CO. These areas include the boiler rooms in residential halls, lower levels of the Alpine garage, the garage in the Campus Services Building (CSB), and in all UCCS homes including the Forester Home, Sustainability House, Innovation House, and the Farmhouse.

#### **CARBON DIOXIDE**

Carbon dioxide (CO<sub>2</sub>) is a natural part of exhaling, but it can also be an asphyxiant in high concentrations. CO<sub>2</sub> is an odorless, colorless gas that is heavier than air so it can accumulate in low areas. The allowable exposure limits are 10,000 ppm over 8-hours and 30,000-ppm short-term exposure limit. Over-exposure symptoms include dizziness, headache, nausea, rapid breathing, shortness of breath, increased heart rate (tachycardia), cardiac arrhythmia, blurred vision, confusion, flushed skin, unconsciousness, and ultimately death. If you are experiencing any of these symptoms, evacuate the area and contact Public Safety immediately.

#### **RELATIVE HUMIDITY**

Although relative humidity is not harmful, it can create an uncomfortable work environment and

can increase the chances for mold and other biological build-up if not properly controlled. Relative humidity in an office space fluctuates with the temperature in order to keep the room comfortable. Optimum levels are between 30% and 60%, however in a drier climate such as Colorado, the levels may be lower.

## TEMPERATURE

Temperature in a work environment is similar to relative humidity in that it is not hazardous to the occupants, but can cause discomfort. Temperature inside will vary with the outside temperature, but should remain anywhere from 68 to 76 degrees Fahrenheit.

Last reviewed by Kelley Hixson September 2018