Safety and Chemical Disposal Protocol For DUNE FC Production

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Outline

- Safety training done through EHS
- Safety concerns for field cage construction and quality control
- Safety practices and using PPE
- Proper disposal of chemicals and inventory management

Required Safety Training

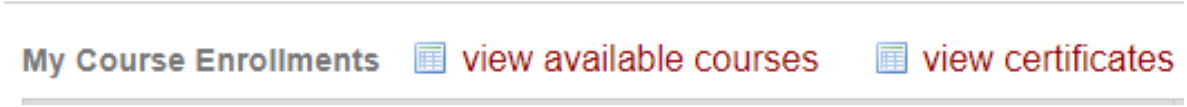
- CHEM200 – Communication and Waste Management (50min)
- LSR100 – Laser Safety (45min)
- OCC100 – Respiratory Protection (30min)

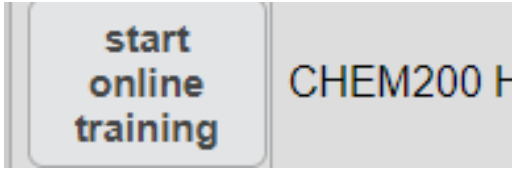
- Radiation Safety Training (2-3hrs)
- Respirator Fit Test (15min)
- Site Specific Training

Required Safety Training Cont.

- Go to the UTA CEMS website and login with your UTA email and password
- Click “view available courses” then click “start online training”
- If needed, click “view certificates” to download a pdf

- In- person trainings can be scheduled with:
  - Resp. Fit Test, Elisabeth Rowlett – rowlett@uta.edu
  - Rad. Safety Training, Laura Warren – lwarren@uta.edu





Safety Concerns for FC Production

- Dropping heavy objects on feet
- Bodily harm related to using the crane to move heavy objects
- Chemicals in eyes or on skin
- Cuts and Abrasions
- Breathing in fiberglass dust and other particulates
- Asphyxiation
- Cryogenic burns

General Safety Guidelines

- Always work with at least one other group member, never alone
- If you have any doubts, always ask before starting a task
- Communicate clearly when you are starting a hazardous process
- Know the location of the first aid kit, fire extinguisher, and wash stations
- Know who to contact in the case of an emergency

Construction Safety

- Steel-toe shoes/boots will be worn at all times
- Safety glasses should be worn at all time
- In general, hard hats should be worn at all times, but especially when
  - Working with the assembly table
  - Using the crane
  - Moving large items like I-Beams

Sanding, Gluing, and Deburring Safety

- KN95 masks or a respirator with a P100 filter should be worn when sanding
  - Can not be shared
  - Respirators must be cleaned regularly
  - KN95 should be disposed of if damaged or used for longer than 8 hours
- Thick work gloves to be worn when sanding with nitrile gloves underneath
- Nitrile gloves when working with epoxy and varnish
- Lab coats to protect any other exposed skin

Liquid Nitrogen Safety

- **Always work in pairs and in well ventilated areas**
- Wear the gloves designed for working with LN2 (do not submerge in LN2)
- Cover as much skin as possible (pants, long sleeves, lab coat)
- Only dispense needed amounts of LN2 into a dewar and never above 80% capacity
- Never completely seal a dewar containing LN2
- Lower items slowly into the dewar to prevent splashing

Chemical Inventory and Disposal

- All chemicals should be barcoded and logged in CEMS
- Empty containers can not simply be thrown away but need to be removed from the CEMS system first. Eric and I have the ability to do this.
- If an item can not go in regular garbage it must be tagged for hazardous waste and a request to EHS for pickup must be sent
- These tags and liquid waste container can be obtained from CPB Stockroom

Future Work

- Make known where various items will be stored
- Define crane safety procedure
- Determine what mask/filter type is needed for “dirty work” (Resp. Haz. Asmt.?)
- Pull SDS and determine if further precautions are needed for various chemicals

Questions?