OUTLINE OF MAJOR PROGRAM POINTS
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The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- Handling hazardous chemicals and specimens requires a great deal of caution.
  - Hazards can spread and contaminate the things around them.
  - Even laboratory employees can be affected.

- Everyday operations call on laboratory employees to handle many hazardous substances.
  - Toxins.
  - Corrosives.
  - Carcinogens.
  - And others.

- Laboratory employees think they spend a lot of time protecting themselves.
  - Are they really doing all they can?
  - Tiny amounts of a hazardous material, combined with a few unconscious errors, can cause contamination.

** "Luminescent Dye" demonstration of the spread of contamination.**

- To prevent contamination several things must be protected:
  - The products we work with.
  - Our work space.
  - Ourselves.

- To effectively shield ourselves from contamination we must be aware of potential hazards. Things we can do include:
  - Reading product labels.
  - Consulting Safety Data Sheets.
There are four major "routes of entry" by which contamination can enter the body:
- Inhalation.
- Eye contact.
- Skin contact, absorption and injection.
- Ingestion.

To protect ourselves we must use a combination of:
- Engineering controls.
- Safe work practices.
- Personal protective equipment (PPE).

Personal protective equipment is especially important. When you use it you should:
- Inspect it before you put it on.
- Replace damaged items.
- Make sure there is a proper fit.

At a minimum you should wear:
- Gloves.
- A lab coat.
- Safety eyewear.
- Face shields should be worn if there is a danger of chemical splashes.

You need to anticipate the hazards that are presented by the materials you are working with.
- Talk to your supervisor to make sure you are fully protected.
- Monitor the condition of your PPE.
- Immediately replace damaged PPE.
- Also replace any PPE that may become contaminated.

Pay special attention to your gloves.
- Perspiration on the inside can make gloves permeable.
- Liquids on the outside can have the same effect.
- Change gloves at least once every two hours (or as soon as they get wet.)
• **Using engineering controls is also important.**
  — Splashguards and blast shields can protect against chemical contact.
  — Exhaust hoods and other ventilation devices keep fumes and vapors away.
  — Consult your supervisor about the controls that you should use.

• **Safe work practices must also be followed.**

• **Good housekeeping is very important.**
  — Keep work areas neat and orderly.
  — Avoid clutter.
  — Use small containers when possible.
  — When you are finished using something, return it to where it belongs.

• **Spills should be cleaned up as quickly as possible.**
  — Follow proper disposal procedures.
  — Always decontaminate the area.

• **When you are finished with equipment, make sure it is cleaned and decontaminated.**
  — Cleaning/decontamination should also be performed at the end of the day.

• **If glassware can't be cleaned immediately, soak it in soap and water. This:**
  — Cuts down on contamination.
  — Makes clean-up easier.

• **You should plan for the disposal of hazardous or infectious waste before starting to work.**
  — Follow your facility's written policy.
  — Don't pour chemicals down the drain.
  — Incorrect disposal could contaminate drinking water and the environment.

• **Whenever you leave your area it is important not to take contamination with you. This is true whether you are:**
  — On a break.
  — Going to lunch.
  — Going home.
• Leave notebooks and supplies in the laboratory.
  — Anything you use in your work area should be considered to be contaminated.

• Other things you should do when leaving the lab area include:
  — Washing your hands.
  — Taking off PPE and lab coats.

• Poor safety practices can increase the risk of ingesting hazardous material. You should never:
  — Take materials to lunch.
  — Bring food/drink into the lab.
  — Wash plates or utensils in lab sinks.

• Remember, contaminants move easily from one part of the body to another.
  — Avoid habits like rubbing your face or scratching your head.
  — Guard against ingestion by never mixing contaminants with non-contaminated objects.

• It is also important to protect the materials that you are working with.
  — Samples can be contaminated by other substances.
  — Hours or even days of work can be ruined.

• To prevent contaminating materials:
  — Keep work surfaces and equipment clean.
  — Check surfaces and tools before, during and after you work with them.
  — Decontaminate all equipment after using it.
  — Use proper cleaning methods (be particularly careful with powders and other dry substances).

*** SUMMARY ***

• Keeping things free from contamination is critical to safe and productive lab operations.

• Work carefully.
- Know what you're dealing with.
- Don’t make assumptions.
- Use correct engineering controls.
- Maintain good housekeeping skills.
- Wear PPE and dispose of it properly.
- Most importantly, be mindful of those who work before you...and considerate of those who work after you.