**Outcome:** Students will be able to identify, explain their function/use and properly read various gauging and indicating devices and their typical accessories used in industrial processes including; Level, Pressure, Temperature, and Flow.

**Lecture:** Lecture to review:

1. Measurement concepts
   1. Level
   2. Pressure
   3. Temperature
   4. Flow
2. Units of measurement
3. Gauging accessories
4. Reading gauges
5. Gauge ISA symbology

**Demo(s) Utilized:**

1. Small equipment lab
   1. Pressure Gauge
   2. Temp Gauge

**Lab:**

1. Location: HOT Unit (GRHS)
   1. Students to identify the various gauges and accessories
   2. Students will demonstrate their ability to interpolate gauge readings.
   3. Students to physically remove, inspect and replace various gauging devices while the unit is in service.

**Homework:**

1. Students to be broken up into teams of two.
2. Based on the students current understanding of the gauges and accessories students will write a draft procedure to remove and replace various “damaged” gauging devices.
   1. Level
   2. Pressure
   3. Temperature

**Documentation:**

1. Tech I Gauging .ppt

**Assessment:**

1. Homework
2. Lab Work
3. Lab Safety
4. Hands-on observation
5. Quiz(s) & Final Exam

**Gauging Homework**

You and a partner will collaborate on writing a draft “toolbox” procedure on how to safely remove and replace a damaged gauging device. The procedure is due\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and we will critique a selection of them as a group

I will set the situation and will assign two types of gauges to each team.

Presentations & critique should take approximately 10 minutes.

Please include the following items in your procedure:

**Toolbox Procedure Requirements:**

* Safety considerations and requirements.
* Potential hazards
* Equipment list.
* The procedure may include pictures or drawings.
* Description of work to be performed
  + Step by step checklist
* The document must be neat and well organized:
  + Easy to read
  + Easy to follow
  + Pictures and visuals where necessary

This presentation will go towards your Lab grade and is worth 30 points

**Grade Breakdown**

* **\_\_\_/10 points:** Completeness and organization of safety and hazard considerations
* **\_\_\_/5 points:** Completeness of equipment list.
* **\_\_\_/10 points:** Completeness and organization of procedure and checklist.
* **\_\_\_/5 points:** Neatness and organization
  + - Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Score: \_\_\_\_\_\_\_\_
    - Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Score: \_\_\_\_\_\_\_\_