

# PENNSSTATE

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**IE 419**  
**Work Design:**  
**Productivity and Safety**

Dr. Andris Freivalds

Class #35

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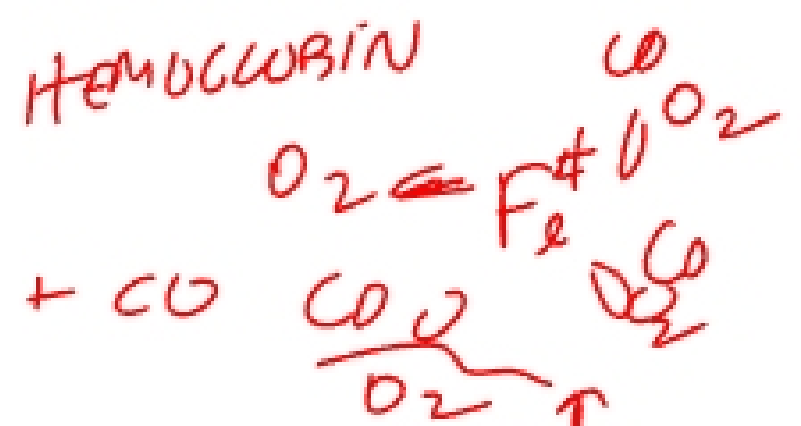
## **IE 419**

# **Work Design: Productivity and Safety**

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# Hazards



- Burns —

- Suffocation 64% FATALITIES, 27% BURNS

- CO — CARBON MONOXIDE — INCOMPLETE COMBUSTION  
1% ~ 3min .3% → 30-60min,

- CO<sub>2</sub> >5% >10% LACK O<sub>2</sub>

- HCN

PLASTICS

- Phosgene

- HCl, H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>

- Soot, smoke

- Temperature