**2024-2025 Spring, Department of Computer Engineering**

**CBU4405 Job Safety and Workers’ Health-I**

**HOMEWORK**

|  |  |
| --- | --- |
| **Presentation Date** | **21.03.2025** |
| **Student Id** | 220315086 |
| **Name Surname** | Batın Taha Önal |
| **Question ID** | 5 |
| **Question** | Explain the hazards and risks of working by cutting metarials. |
| **Answer:** **Working with cutting materials, whether metal, wood, or other substances, involves various hazards and risks. These can lead to injuries, health issues, or even long-term harm if proper precautions are not followed. Below are the key hazards and risks associated with cutting materials:**  **1. Physical Hazards**  **Cuts and Lacerations: Sharp blades and cutting tools (saws, knives, grinders) can cause deep cuts or amputations if mishandled.**  **Flying Debris: Small particles or sharp fragments can fly off and injure the eyes, skin, or nearby workers.**  **Entanglement: Loose clothing, gloves, or hair can get caught in rotating cutting machines, leading to serious injuries.**  **Slips and Falls: Spilled lubricants, metal shavings, or sawdust on the floor can create a slipping hazard.**  **2. Health Hazards**  **Dust and Fumes Inhalation: Cutting materials like wood, metal, or plastic can generate harmful dust and fumes, leading to respiratory issues.**  **Hearing Damage: Cutting operations using saws, grinders, or other power tools produce high noise levels, which can cause hearing loss over time.**  **Vibration-related Injuries: Prolonged use of cutting tools (e.g., angle grinders) can cause Hand-Arm Vibration Syndrome (HAVS), affecting nerves and blood circulation.**  **Exposure to Hazardous Substances: Some materials, like treated wood or coated metals, release toxic chemicals when cut.**  **3. Fire and Explosion Hazards**  **Sparks and Heat: Cutting metal with grinders or welding tools generates sparks that can ignite flammable materials.**  **Combustible Dust: Fine dust from wood, plastics, or metals can accumulate and cause dust explosions in confined spaces.**  **4. Electrical and Mechanical Hazards**  **Electrical Shock: Faulty or damaged cutting machines can lead to electrocution.**  **Malfunctioning Equipment: Poorly maintained tools may malfunction, leading to sudden blade breakage or unexpected movement.**  **Risk Control Measures**  **To minimize these hazards, workers should:**  **✔ Use proper Personal Protective Equipment (PPE): Safety goggles, gloves, hearing protection, and dust masks.**  **✔ Maintain a clean and organized workspace to prevent slips and falls.**  **✔ Ensure proper ventilation or use dust extraction systems.**  **By following safety protocols, workers can significantly reduce the risks associated with cutting materials.** | |