



جامعة البلقاء التطبيقية
وحدة التقييم والامتحانات العامة

مصفوفة الكفايات والمهارات العملية لمخرجات التعلم Outcomes Learning

الورقة	الثالثة (المهارات الفنية المتخصصة)
البرنامج / المسار	العلوم التطبيقية
التخصص	تقنيات المواد الخطرة
رمز الورقة	023001M/3

المهارات الفنية المتخصصة	مخرجات التعلم	No.
• Identification of hazardous material types • Identification of the uses of hazardous materials • Determination of hazardous material concentrations that cause harm • Routes of exposure to hazardous materials • Health effects and impacts that hazardous materials can cause • Types of hazardous materials commonly found in households • Methods for detecting, identifying, and handling hazardous materials • Types of equipment and protective clothing used in handling hazardous materials • Health protection measures to minimize exposure to hazardous materials	Types of Hazardous Materials and Methods of Handling Them	1
-Knows principles of safe transport and storage of hazardous materials. -Knows preventive measures to avoid hazardous incidents and prevent recurrence. -Knows safety requirements during hazardous material incidents. -Knows how to use computer software for chemical information and hazard inquiry. -Knows methods and procedures to prevent hazardous material risks.	Methods of Protection from Hazardous Materials	2



- Knows key local and international information sources and standards to identify hazardous materials and apply safe handling procedures. - Knows the types, purpose, and selection criteria of personal protective equipment (PPE) according to hazard type. - Knows how to identify and assess hazardous material risks to take appropriate measures for reduction or prevention. - Knows general safety principles during different stages of hazardous material handling (use, storage, transport, disposal, and exposure during incidents). - Knows how to assess and classify victims of hazardous material incidents. - Knows initial first aid procedures for burns, asphyxiation, and poisoning caused by hazardous materials. - Knows health effects caused by corrosive substances, choking agents, and nerve gases, and the corresponding first aid measures. - Knows medical procedures for victims of various hazardous material incidents. - Knows practical skills necessary to provide first aid to hazardous material incident victims.		
1. Chemical Hazards and Classification • Knows hazardous material types, properties, symbols, classifications, common household chemicals, and sources. • Knows routes of exposure and associated health effects. • Knows chemical weapons and methods to mitigate their risks. 2. Radiological Hazards and Protection • Knows atomic structure, ionizing radiation, radiation measurements, and detection techniques. • Knows radiation safety systems and biological effects of exposure. 3. Biological Hazards and Biosafety • Knows types of biological hazards, pathogens, transmission methods, and risk assessment. • Knows appropriate PPE use and proper disposal to prevent contamination.	Types of Hazards Resulting from Hazardous Materials 	3

4. CBRN Threats and Protective Measures • Knows chemical, biological, and nuclear agents, their characteristics, effects, and dissemination. • Knows selection of protective measures and methods to reduce impacts of weapons of mass destruction.		
- Knows the requirements for transporting hazardous materials according to the United Nations classification. - Knows how to handle hazardous materials efficiently following best practices. - Knows global and local standards related to inspection and transportation processes. - Knows how to handle materials that pose hazards to humans, animals, or the environment. - Knows the basic principles of hazardous material storage. - Knows methodologies and standards that ensure optimal public safety in hazardous material storage operations. - Knows how to collect and handle samples for detection and analysis. - Knows techniques for operating detection and analytical instruments. - Knows detection and analytical devices used for hazardous materials.	Mechanism of Transport and Storage of Hazardous Materials	4
Hazardous Material Detection and Computer Applications • Knows the instruments used for hazardous material detection. • Knows how to operate different detection instruments.	Methods of Responding to Hazardous Materials Incidents	5



• Knows the working principles of hazardous material detection devices. • Knows the concept of information technology and its role and impact on various operations. • Knows how to examine chemical and physical properties of hazardous materials using computer software. • Knows how to use computer software to predict the outcomes of reactions between hazardous materials. • Knows how to use computer software to predict hazards from spills or leaks of hazardous materials. • Knows how to use computer software to model smoke plumes, clouds, and atmospheric dispersion resulting from hazardous material releases. • Knows about real and virtual simulations and their applications in hazardous material management. Practical Skills and Exercises • Knows practical skills and gains hands-on experience required to handle various hazardous material incidents. • Knows how to implement scenario-based exercises collaboratively with a team. • Knows how to apply theoretical knowledge in practical, real-world situations. • Knows how to operate and apply knowledge on various detection and analysis devices. • Knows how to prepare for major incidents and understands the procedures followed in such cases.		
Knows modern information and technologies in the field of decontamination. Knows global and local references and standards in the field of decontamination. Knows how to respond to hazardous material incidents.	Mechanism of Detection and Decontamination 	6

Knows relevant organizations and authorities related to hazardous material management. Knows the importance of the decontamination process. Knows how to apply decontamination procedures. Decontamination and Emergency Response • Knows decontamination techniques, procedures, and global/local standards. • Knows how to respond to hazardous material incidents, including containment, disposal, and coordination with relevant authorities. • Knows equipment and protective clothing for safe handling during incidents.		
---	--	--

