



Australian Government

Department of Education, Employment and Workplace Relations

BSBOHS604B Apply ergonomic principles to control OHS risk

Revision Number: 1

BSBOHS604B Apply ergonomic principles to control OHS risk

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to apply ergonomic knowledge, principles and techniques to control occupational health and safety (OHS) risk. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
------------------------	--

Application of the Unit

Application of the unit	This unit addresses the principles, processes and techniques of ergonomics including the study of the interaction between people, the equipment they use and their general environment. The unit focuses on aspects of work design and work planning such as work layout, work flow, skills, individual variations and environmental factors. The underpinning knowledge and skills required for this unit are outlined in BSBOHS504B Apply principles of OHS risk management, and BSBOHS505C Manage hazards in the work environment, and include knowledge of systematic approaches to OHS.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess the degree of match between people and their activities, equipment, environment and systems	1.1. Identify the extent of human variability in the organisation 1.2. Determine demands placed on people in the organisation by their activities, equipment, environment and systems 1.3. Determine people's capacity to interact optimally with their activities, equipment, environment and systems 1.4. Determine the match between people and their activities, equipment, environment and systems 1.5. Identify specialist advisors and relevant stakeholders for sources of information and data , and consult them during the assessment process
2. Design ergonomic interventions to enhance the match between people and their activities, equipment, environment and systems	2.1. Identify ergonomic interventions in the design process to optimise the match between people and their activities, equipment, environment and systems 2.2. Design the work environment to optimise the match between people, their activities, equipment, environment and systems 2.3. Use tools and databases to assess tasks and designs to minimise risk 2.4. Make recommendations to optimise the integration of controls and display the decision making processes within the work system
3. Implement ergonomic interventions to enhance the match between people and their activities, equipment, environment and systems	3.1. Provide advice on the impact of legislation, codes of practice and standards on the selection and implementation of ergonomic interventions 3.2. Consult key personnel , stakeholders and users when developing, selecting and implementing ergonomic interventions 3.3. Make links with other functional areas and management systems 3.4. Facilitate implementation of the agreed intervention 3.5. Identify and document training needs 3.6. Identify and document resources necessary to introduce and maintain the agreed interventions 3.7. Report the outcomes of ergonomic assessments and interventions to key personnel and stakeholders
4. Evaluate ergonomic interventions	4.1. Evaluate quality and outcomes of ergonomic interventions in consultation with stakeholders and

ELEMENT	PERFORMANCE CRITERIA
	users 4.2. Facilitate modification of interventions, as required, as a result of the evaluation findings 4.3. Make recommendations regarding future interventions as a result of the evaluation

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
 - identify areas for improvement with OHS incidents
 - analyse relevant workplace information and data, and to make observations of workplace tasks and interactions between people, their activities, equipment, environment and systems
 - contribute to the assessment of resources needed to systematically manage OHS and, where appropriate, access resources
 - contribute to the strategic OHS performance of the organisation
- attention to detail when making observations and recording outcomes
- numeracy skills to carry out simple arithmetical calculations (e.g. % change) and to produce graphs of workplace information and data, to identify trends and recognise limitations of information and data, and effectively use anthropometric tables
- research skills to access relevant OHS information and data to interpret information and data, to identify areas for improvement
- communication skills to:
 - conduct effective formal and informal meetings and to communicate effectively with personnel at all levels of the organisation, OHS specialists and, as required, emergency services personnel
 - write policies and procedures, plans
 - use language and literacy skills appropriate to the workgroup and the task
- consultation and negotiation skills to develop plans, and to implement and monitor designated actions
- project management skills to achieve continuous improvement and change
- organisational skills to manage own tasks within a timeframe
- information technology skills to access and enter internal and external information and data on OHS and to use a range of media

Required knowledge

- basic human cognitive and perceptual capabilities relevant to the design of human-machine interfaces
- basics of anthropometry and biomechanics
- characteristics, mode of action and units of measurement of major hazard types
- difference between hazard and risk
- direct and indirect influences that impact on OHS and the environment in the design of product/s
- ethics related to professional practice
- formal and informal communication and consultation processes, and key personnel

REQUIRED SKILLS AND KNOWLEDGE

- related to communication
- hierarchy of control and considerations for choosing between different control measures, such as possible inadequacies of particular control measures
- how the characteristics and composition of the workforce impact on risk and the systematic approach to managing OHS, for example:
 - communication skills
 - cultural background/workplace diversity
 - gender
 - labour market changes
 - language, literacy and numeracy
 - structure and organisation of workforce e.g. part-time, casual and contract workers, shift rosters, geographical location
 - workers with specific needs
- human error and implications for design of equipment, work practices and controlling ergonomic hazards
- interdependent relationships between ergonomics and workplace stressors such as psychosocial factors, occupational violence, shift work, repetitive work, awkward postures, lighting, thermal environment and work layout
- internal and external sources of OHS information and data
- key personnel, including identifying 'change agents', within workplace management structure
- language, literacy and cultural profile of the workgroup
- legislative requirements for OHS information and data, and consultation
- limitations of generic hazard and risk checklists, and risk ranking processes
- nature of workplace processes (including work flow, planning and control) and hazards relevant to the particular workplace
- organisational behaviour and culture as it impacts on OHS and on change
- organisational culture as it impacts on the workgroup
- organisational OHS policies and procedures
- other functional areas that impact on the management of OHS
- pertinent sections of relevant Australian and other standards such as AS/NZS 4360: 2004 Risk management, National Standard for the Storage and Handling Workplace Dangerous Goods [NOHSC: 1015(2001)] and National Standard for Manual Handling [NOHSC: 1001 (1990)]
- physiology and functional anatomy relevant to identifying and controlling ergonomic hazards
- principles and practices of a systematic approach to managing OHS
- principles of duty of care including concepts of causation, foreseeability, preventability
- principles of human behaviour and response to interactions with human, physical and task environment to identify psychosocial hazards
- requirements under hazard-specific OHS legislation and codes of practice

REQUIRED SKILLS AND KNOWLEDGE

- risk as a measure of uncertainty and the factors that affect risk
- risk factors for manual handling injury and risk assessment techniques for manual handling
- roles and responsibilities under OHS legislation of employees including supervisors, contractors, OHS inspectors
- standard industry controls for a range of hazards
- strategies for minimising risk through application of ergonomic design and engineering, work layout, work processes, work organisation
- types of hazard identification tools including job system analysis (JSA)

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- application of ergonomic interventions to control OHS risk in work design processes and the work environment generally in an actual workplace or simulation exercise
- products developed for application of knowledge and skill in ergonomic interventions
- how these products were developed
- use of these products
- knowledge of the interdependent relationships between ergonomics and workplace stressors.

Context of and specific resources for assessment

Assessment must ensure:

- access to workplace
- reports from other parties consulted in developing ergonomic interventions
- access to relevant legislation, standards, guidelines, information and data.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- analysis of responses to case studies and scenarios
- direct questioning combined with review of portfolios of evidence and third party reports of on-the-job performance by the candidate
- observation of performance in role plays
- observation of presentations
- oral or written questioning to assess knowledge of physiology and functional anatomy relevant to identifying and controlling ergonomic hazards
- review of recommendations made to optimise the integration of controls and display the decision making processes within the work system
- written examples of reports on ergonomic risks control programs

EVIDENCE GUIDE	
	• assessment of reports about the outcomes of ergonomic assessments and interventions • evaluation of recommendations made regarding future interventions.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other OHS units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Specialists advisors may include:

- designers
- engineers (such as design, acoustic, safety, mechanical, civil)
- health professionals
- legal practitioners
- manufacturers and suppliers
- occupational hygienists
- specialist ergonomists.

Stakeholders may include:

- employees
- health and safety, and other employee representatives
- managers
- OHS committees
- supervisors.

Sources of information and data may include:

- external sources such as:
 - Australian Safety and Compensation Council
 - employer groups, unions and industry bodies
 - international and Australian Standards
 - National Plant and Certification Standards and associated guidance material
 - OHS professionals, including those involved in safety engineering, occupational hygiene, occupational health, injury management, toxicology, ergonomics and epidemiology
 - professional associations such as Ergonomics Society of Australia, Safety Institute of Australia, Institute of Engineers Australia, Design Institute of Australia and Building Design Professionals
 - relevant state/territory and commonwealth OHS legislation and codes of practice

RANGE STATEMENT	
	• state and territory OHS regulatory bodies • internal sources such as: • audits, questionnaires and surveys • documents describing how tasks, projects, inspections, jobs and processes are undertaken • employees • enforcement notices and actions • hazard, incident and investigation reports • job and task statements • manufacturers' manuals and specifications • minutes of meetings • purchasing, contract and tendering procedures • reports • workplace inspections.
<i>Ergonomics interventions</i> may include:	• design of equipment • design of products • design of tools • design of work systems, processes or organisation including work flow, planning and control • design of workplaces • development of new decision making processes • job design • new forms and organisations of work.
<i>Tools and databases</i> may include:	• Australian and international anthropometric databases • Australian and international standards • engineering models.
<i>Legislation, codes of practice and standards</i> may include:	• Australian and international standards • common law • contract law • criminal law • current Commonwealth and relevant state/territory OHS legislation, regulations, codes of practice, associated standards and guidance material • equal employment opportunity and

RANGE STATEMENT	
	anti-discrimination law • industrial relations law • privacy legislation • trade practices • workers compensation.
Key personnel may include:	• managers involved in OHS decision making or who may be impacted by decisions.
Other functional areas and management systems may include:	• engineering and maintenance • environmental management • finance and auditing • human resources, industrial relations and personnel management including payroll • information and records management • logistics • purchasing, procurement and contracting • quality management • strategic planning.
Resources may include:	• equipment • financial requirements • personnel, including time allocation • specialised resources such as electronic management systems, communications media and information/data technology equipment.

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Regulation, Licensing and Risk - Occupational Health and Safety
-------------------------	---

Co-requisite units

Co-requisite units		