The Occupational Health and Safety (OHS) Professional Capability Framework: A Global Framework for Practice

Knowledge matrix

mapped to the

OHS Body of Knowledge

September, 2017

Contents

1 Introduction

A conceptual framework together with specific technical knowledge is essential for both OHS Professionals and OHS Practitioners. Such a knowledge base supports innovation, flexibility and openness to new and advancing thinking about OHS. It enables OHS specialists to develop and adapt their professional practice to changing demands of business and society and also enables them to mentor and develop others. As such a knowledge base will be gained through a combination of formal education and experience it is not expected that an OHS Professional or OHS Practitioner would gain the knowledge through education alone.

Two important documents provide information on the conceptual knowledge base required of OHS Practitioners and OHS Professionals: the OHS Global Capability Framework and the OHS Body of Knowledge.

1.1 OHS Global Capability Framework

The International Network of Safety and Health Practitioner Organizations (INSHPO) developed the Occupational Health and Safety (OHS) Professional Capability Framework: A Global Framework for Practice[1] to:

- Facilitate a shared understanding of the different roles for the OHS Professional and the OHS Practitioner
- Position the OHS Professional as a key advisor, strategist and leader in fully integrating the management of OHS risk into sustainable business practice
- Position the OHS Practitioner as a skilled implementer of OHS activities and an effective OHS supporter and communicator at the site level.

The Framework promotes a high standard of capability for OHS specialists and in turn informs employers and regulators as to the differential capabilities of OHS Practitioners and OHS Professionals. The document begins by clarifying the roles of the OHS Professional and of the OHS Practitioner and the context in which they work. It provides position profiles that set the roles in an organizational context and highlight gradations across the roles. It then indicates that these gradations are partly related to differences in the maturity of the OHS management system in the employing organizations. Finally, it details the activities, knowledge, skills and hazards that the OHS Professional and OHS Practitioner may be expected to advise on and help manage.

1.2 OHS Body of Knowledge

A defined body of knowledge is an important pre-requisite of a profession. It is also required as a basis for professional certification and for accreditation of programs giving entry to the profession. The lack of such a body of knowledge for OHS professionals was identified in reviews

[1] The Framework can be accessed at http://www.inshpo.org/work .

of OHS legislation and OHS education in Australia. The *OHS Body of Knowledge for Generalist OHS Professionals* (OHS BoK) was developed as an outcome of the OHS Body of Knowledge project funded by WorkSafe Victoria. This project also developed the protocols for establishing accreditation of OHS education and certification of OHS Practitioners and Professionals in Australia.

The OHS BoK describes the collective knowledge that should be shared by generalist OHS professionals to provide a sound basis for understanding the causation and control of work-related fatality, injury, disease and ill-health (FIDI). The OHS BoK is not a textbook, nor a course of study, but describes key concepts and related evidence that can be applied in different contexts and frameworks. The OHS BoK is not intended to be a definitive statement, fixed in time. Rather it is subject to continual reinterpretation and evolution as people engage with it, apply it, and extend it by research.

The OHS BoK is published as an e-book with the first edition being in 2012. New chapters are continually in development and existing chapters are subject to regular review.

While the OHS Body of Knowledge is developed in Australia, its structure and approach makes easily internationalizable and work is currently underway on joint projects with international bodies that will expand the international approach of the OHS BoK. [2]

1.3 The knowledge mapping

While the Global Framework scopes the knowledge required by the OHS Practitioner and OHS Professional, the OHS BoK provides an explanation of the underpinning core concepts and so it is useful to consider these as companion sources of information. The mapping document references the chapter of the OHS BoK against the knowledge categories and illustrative topics in the Framework. The noting of an OHS BoK reference does not suggest that the topic is necessarily addressed in the required detail. While the reference may address the topic in detail, it may also just be a useful reference.

The knowledge matrix of the Global Framework is described under six areas with each area having many categories with illustrative generic topics indicating the intended scope of the knowledge category. These categories and topics are described at a high, generic level to allow flexibility in the way it is applied to suit the legal and OHS context in individual countries. The conceptual and technical knowledge under these areas must be integrated to enable the OHS Professional and Practitioner to develop a 'mental model' to inform his or her OHS practice.

The OHS knowledge matrix is limited to specific OHS-related knowledge. It does not address industry or process-specific knowledge. It should be recognized that to operate as an effective OHS Professional or Practitioner, one must understand the technical and cultural aspects of the

[2] As the OHS BoK is Australian-based there some references to Australian legislation and Australian injury and health statistics. These references to legislation provide some context for those using the OHS BoK outside Australia but, as it is not practical to address international legislation and data in such publications it is expected that users will refer to local legislation and injury data.

industry in which s/he practices, with practical knowledge of the industry and its processes being more important for the Practitioner.

The illustrative topics in the knowledge matrix of the Framework are annotated with an indicative range to reflect the expected nature and complexity of the knowledge of the OHS Professional and OHS Practitioner. The coding is based on the following four **knowledge levels**, which address depth, breadth, maturity and integration of the knowledge. These levels are informed by and developed from Bloom's hierarchy of educational objectives.[3]

Level	Knowledge
1	**Awareness:** Understands the need for and general principles of application of the knowledge.
2	**Routine application:** Applies the knowledge to routine, well-known situations, with depth in some areas.
3	**Comprehensive application:** Integrates, adapts and applies the knowledge to all relevant areas and situations.
4	**Creative mastery:** Applies the theoretical concepts and applied knowledge critically and creatively to new situations.

The scope of application of the knowledge will be different for the OHS Practitioner and OHS Profession:

OHS Professional:	Across the organization, including site, divisional/regional and corporate; may include local, national or global roles.
OHS Practitioner:	Usually at a site (workplace) level of an SME or a section or plant of a large organization.

The required breadth and depth of knowledge should take into account the scope of relevant activities as well as specific requirements related to the role that may be organization- or country-specific.

The OHS BoK chapters are available for download at www.ohsbok.org.au

Note that there are also:

- Learning outcomes for each chapter
- A chapter specific resources page
- A 'sandbox' is being developed to facilitate comment and discussion on the OHS BoK chapter topics.

[3] See Bloom, B.S., Engelhart, M.D., Furst, E.J., Hill, W.H., & Krathwohl, D.R. (Eds) (1956). *Taxonomy of Educational Objectives: Handbook 1 Cognitive domain*. New York: David McKay.

2 Mapping of OHS knowledge matrix to OHS BoK concepts

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
A	**Hazards and risks**					
1.	Causation – Health & Psychosocial	• Chronic and cumulative impacts	1-2	3	17, 33	35
		• Multifactorial nature of health determinants	1-2	3	33	34.5
		• Work-related impacts on health	2-3	3	12	19
		• Concept and models of "healthy work" and "wellness"	1-3	3		34.4
		• Models of causation of fatigue and stress	1-2	2-3	19, 20	
		• Mental illness in the workplace	1-2	2-3	19	34.4
2.	Causation – Safety	• Models of accident[5] causation (linear to complex)	2-3	3-4	32	
3.	Causation – Environmental	• Models of environmental harm (air, water, soil)	0-1	2-3		
4.	Risk	• Difference between hazard and risk	2-3	4	15, 31.1	
		• Risk as a complex concept (uncertainty)	2-3	3-4	31.1	
		• Prioritization of critical risk	2-3	3-4	34	
		• Qualitative/quantitative aspects of risk)	1-2	3-4	31.1	
5.	Hazards	• Process and task safety analysis methods (e.g., Job Safety Analysis)	2-3	3-4	11.3	
		• Complex hazard analysis methods (i.e., FMEA, HAZOP, Fault Tree, Bowtie, etc.)	0-1	2-4	11.3	
		• Knowledge of exposure standards and their application	2-3	2-3	17	
		• For each specific hazard:[6] ○ Basic underpinning science to understand the hazard's behavior, how it causes damage and how it can be controlled ○ Relevant definitions, units and methods of measurement ○ Mechanisms of damage, injury and health outcomes,	2-3	3-4	16-30	

[4] See Attachment for chapter listing

[5] The term "accident" in this document includes incidents (sometimes called dangerous situations, near-misses or precursors) leading toward but stopping short of harm.

[6] See Section 7.

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
		including those leading to material unwanted events ○ How the hazard is used/occurs in the occupational environment and specific industries ○ Risk factors				
		• Hazard-specific legislation and standards	2-4	2-3	16-30	
B	**Hazard and risk controls**					
6.	Control – Principles	• Time sequence of pre-event, event and post event and relevant control/intervention points	2-3	3-4	34	
		• Hierarchies of control, barriers and defenses, critical controls, requisite variety of controls	2-4	4	34	
		• Criteria for critical controls and principles of critical control management[7]	1-3	3-4	34	
		• Health protection and promotion[8]	1-2	3		
		• Hazard-specific risk control strategies	2-3	3	16-30	
7.	Control – Process and workplace design	• Concept of inherent safety and engineered safe design	1-3	3		34.3
		• Process and equipment instrumentation and control	2-3	2-3		
		• Human factors and ergonomics (including physical and cognitive ergonomics)	2-3	2-4	16	34.3
		• User-centered design	1-3	3	34.2	34.3
		• Workplace layout	2-3	3	16	
		• Impact of technology, including automation	1-2	3		
8.	Control – Barriers	• Types of barriers (machinery guarding, access control, separation, containment, work skills, PPE, etc.)	2-4	3-4	34, 28	
		• Role and limitations of barriers	2-4	3-4	34	
		• Barrier maintenance requirements	2-4	3-4	34	
		• Establishing and managing a PPE program (including	3-4	3-4		

[7] See International Council on Mining and Metals (ICMM). (nd). *Health and Safety Critical Control Management: Good practice guide.* www.icmm.org.

[8] The degree to which OHS personnel are involved with health promotion differs from country to country.

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
		selection, fitting and maintenance)				
9.	Control – Procedural and administrative controls	• Systems of work	1-3	3-3	11.1	
		• Handovers, permit to work systems, lock out/tag out	2-4	2-3	16	
		• Inspection, maintenance and testing	2-4	2-3	16	
		• Competent workers: recruitment and selection processes, fitness for work	1-2	3-4		
		• Competent workers: training; needs analysis; development and documentation of training; multimodal delivery; assessment of individuals and training programs; mentoring	1-4	3		
		• Rules and procedures, factors affecting procedural compliance	2-4	3-4		11.4
		• Licensed operators	2-4	2-3		
		• Outsourcing, contractor management	2-3	3		
		• Supply chain management	1-3	3		
10.	Mitigation – Emergency preparedness	• Liaison with external agencies: chain of command	2	3-4	36	
		• Relevant standards	2-4	3	36	
		• Detection and mitigation methods	2-4	3	36	
		• Development of emergency preparedness plans and arrangements	2-3	3-4	36	
		• Implementation of preparedness, including testing of preparedness	2-4	2-3	36	
		• Recovery, including organization continuity plans and management	1-2	3-4	36	
11.	Mitigation – Health Impacts[9]	• Provision of first-aid services	2-3	1	35	
		• Provision of medical services	1-2	2-3	35	
		• Workers' compensation and local legal requirements	0-1	1-3		
		• Injury management, case management and claims management	0-1	1-3	35	

[9] The degree to which OHS professionals are involved with these health mitigations differs from country to country. The degree of involvement will govern how much knowledge is required under these headings.

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
		• Role of work and the workplace in worker recovery (establishing and managing a return-to-work program)	1-2	2-3	35	
C	**Safety & health management**					
12.	Safety management	• OHS management systems (structure and elements, relevant standards, limitations)	2-3	4	11.1	11.2
		• Processes for implementing a critical control management program	2-3	3-4	34	
		• System safety	1-2	3-4	11.1	
		• Systems of work, work procedures and instructions	2-4	3-4	11.1	
		• Decision making	2	3-4	31.2	
		• Theories of safety management, including new and emerging theories and insights	1-3	3-4	10.2	10.3
		• Relationship of safety management systems to environmental, quality and business management approaches	1-2	3-4		11.2
		• OHS roles and responsibilities	2-4	4	8.1, 8.2	
		• Principles of assessing and managing contractors	2-3	3-4		
13.	Organizational culture	• Organizations as complex sociotechnical systems	1-2	3-4	10.1	
		• Concepts of national, organizational and safety culture	1-2	3-4	10.2	
		• Relationship between employee (manager and workforce) behavior, organizational culture, safety culture and safety climate	1-3	3-4	10.2	38.2
		• Organizational maturity	2-3	3-4	10.1	
		• Role of leadership	2-3	4		38.2
		• Healthy work	2	3		34.4
		• Limitations of the role and use of safety and health incentives, awards and competitions in relation to culture	2-3	3-4	13	
14.		• International regulatory context	0-1	2-4		
		• Regional and national regulatory context	2	3-4	8.1, 8.2	

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
	Law, regulation and societal context[10]	• Legal principles and comparative legal systems and regulatory frameworks	1	3-4	8.1, 8.2	
		• Criminal and civil law and effect on OHS	1	3-4		
		• OHS-specific law	2-3	3-4	8.1, 8.2	
		• Compliance and enforcement policies and strategies in the jurisdiction	2-3	4	8.2	
		• Workers' compensation law	0-1	1-2	35	
		• Product liability law	0	1-2		
		• Basics of contract law	0-1	1-3		
		• Best practice as it affects due diligence, common law, standard of care and regulation	1-2	3-4	8.2	
		• ILO, ISO and other international standards	1-2	3-4		
		• Market and societal influences	1	2-3		
15.	Risk assessment and decision making on risk	• Sources of information on risk	2-3	3-4	31.2	
		• Methods of risk assessment and their application for specific hazards	2-3	3-4	11.3, 31.2, 16-30	
		• Qualitative methods for estimating levels of risk, including issues and limitations	2-3	4	31.1	
		• Quantitative methods for estimating levels of risk, including issues and limitations	1-2	3	31.1	
		• Defining acceptable levels of risk (legal requirements, internal standards, ALARP[11])	1-2	3-4	8.2, 31.1, 31.2	
		• Risk and decision making (individual and organizational decision-making processes, balancing priorities, risk perception and risk communication, role of workforce, trades unions, public and other stakeholders)	1-2	3-4	31.1, 31.2	

[10] The degree to which OHS professionals are involved with these legal aspects differs from country to country depending on their legal and compensation systems. The degree of involvement will govern how much knowledge is required under these headings.

[11] As Low As is Reasonably Practicable.

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
		• Risk management standards (process, application and limitations)	2-3	4	31.1	
		• Risk perception and risk communication, role of workforce, trade unions, public and other stakeholders	1-3	3-4	31.1, 31.2	31.3
16.	Monitoring, evaluating and validating controls	• Potential sources/modes of failure in controls	2-3	3-4		
		• Risk control and hazard monitoring techniques (including inspections and maintenance)	2-4	3		
		• Structures and processes for managing critical controls	2-3	3-4	34	
		• Work environment monitoring (required equipment and programs)	2-3	3		
		• Investigation methods (incidents, nonconformities)	2-3	3-4		40
		• Role of health surveillance and health risk assessments[12]	1-2	2-3		35
		• Auditing (hazard audits, compliance audits, OHSMS audits, protocols and procedures, relevant standards)	2-3	3		10.4
		• Principles for selecting performance measures	1-2	4		10.4
		• Key performance indicators (qualitative, quantitative, lead and lag)[13]	2-3	3-4		10.4
		• Criteria and processes for monitoring and validating critical controls	2-3	3-4		10.4
		• Benchmarking	1-2	3-4		10.4
		• Basic principles of quantitative and qualitative evaluation methodologies	2-3	3-4		10..4
17.	OHS information management	• Sources of OHS information (internal and external)	2-3	4		11.4
		• Workplace requirements for OHS information	2-4	4		11.4

[12] While health surveillance and health monitoring are the purview of the health professional, the generalist OHS specialist should have an understanding of the role of these activities and be able to engage with health professionals on these activities.

[13] See International Council on Mining and Metals (ICMM). (2012). *Overview of leading indicators for occupational health and safety in the mining industry.* www.icmm.org.

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
		• External agencies' requirements for information	1-3	4		11.4
		• Documentation requirements (organizational and external)	3-4	4		11.4
		• Systems for managing OHS information	2-3	4		
		• Data collection by research, investigation, interview and observation	1-2	3-4	39.1	39.2
18.	Communication and consultation	• Organizational channels of communication (formal and informal, internal and external and barriers to communication)	2-4	3-4		38.2
		• Consultative structures (e.g., safety committees)	3-4	4		38.2
		• Participatory management as it relates to OHS	2-4	4		38.2
		• Models of communication, influence and factors contributing to influence	2-3	3-4		38.2
		• Conflict management	2-3	3		
19.	Change management	• Strategies for defining problems	1-3	3-4		
		• Strategies for analyzing and understanding problems (e.g., affinity diagrams, flow charts, cause and effect, system diagrams)	1-3	3-4		
		• Potential for change to affect work equipment, work processes and work environment	2-3	3-4		
		• Psychology of change as it relates to individuals	2-3	3-4		
		• Innovation and change management processes (planning, consulting, promoting, reviewing and consolidating including role of Practitioner/Professional)	1-3	3-4		
D.	**Professional role and functioning**					
20.	Ethics and professional practice	• Corporate governance	1-2	3-4		38.4
		• Corporate Social Responsibility and sustainability	1-2	3-4		
		• Roles, responsibilities and rights[14]	2-4	3-4		38.4
		• Professional ethics and codes of conduct	3-4	4		38.4

[14] Including right to know and right to refuse unsafe work.

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
		• Models of ethical practice and ethical decision making[15]	1-3	3-4		38.4
		• Professional role (independence, impartiality, confidentiality, competence, evidence base, collegiality, practice within competence)	3	4		38.4
		• Professional liability and indemnity	1-2	3-4		38.4
		• Theories of communication, advocacy, persuasion and documentation	2-3	3-4		38.3
		• Setting up and participating in team work	3	3-4		38.3
		• Research methodologies relating to OHS and work-based research	0-1	3-4		39.2
E.	**Underlying technical, human and social sciences**					
21.	Systems	• Systems as a concept, including variability	1-3	3	11.1	
		• Systems thinking in an OHS context	0-2	2-4	11.1	
22.	Human as a biological system	• Basic human biology	2	2	7	
		• Physiology as it relates to work	1-2	2	12, 16	
		• Biomechanics as it relates to work	2	2-3	16	
		• Cumulative compared with acute impacts on the body	1-2	3	33	34.5
		• Basic principles of toxicology	1-2	2	12	
23.	Individual Psychology	• Psychobiology (structure and function of the brain and nervous systems, role of endocrine systems in response)	1-2	2	13	
		• Cognitive psychology (situation awareness, memory, cognitive biases in decision making)	1-2	2-3	13	
		• Behavioral psychology (learning, conditioning, motivation)	2-3	3	13	
		• Communication	2-3	3		
		• Human error	2-3	3	13	
		• Fatigue and stress	1-3	3	20	
		• Impact of aging on work capability	1-3	3		34.6

[15] These should take national differences into account.

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
24.	Social psychology	• Perceiving individuals (attribution theory and biases)	1-2	3	14	
		• Self in relation to others (social comparison theory)	1-2	2-3	14	
		• Group membership (development of groups, in-groups and out-groups; social identity and self-categorization theories; stereotypes, prejudice and discrimination, contact hypothesis)	1-3	3	14	
		• Groups as they relate to team work	2-3	3	14	
		• Norms and group pressure to conform	1-3	3	14	
		• Task performance (decision-making biases; group task performance)	1-2	2-3	14	
		• Power (sources of power, compliance, inequality, obedience to authority)	1-2	3	14	
		• Attitudes and behavior (e.g., theory of planned behavior; cognitive dissonance theory, persuasion theory)	1-2	2-3	14	
		• Understanding and resolving conflict (competition and cooperation; conflict management styles; distributive and procedural justice)	1-3	2-3	14	
25.	Statistics and quantitative analysis	• Basic arithmetic and algebraic manipulation	2-4	4	7	
		• Units of measurement, prefixes and logarithmic scales	2-4	4	7	
		• Data display and reporting	3-4	4	7	
		• Probability, sampling distribution and confidence levels		3	39.2	
		• Basic statistical measures, including sources of error	1	3	39.2	
		• Principles of survey methods	1	3	39.2	
		• Principles of epidemiological analysis		2-3	39.2	
		• Principles of designing assessments of intervention effectiveness	0-2	3-4	39.2	
26.	Science and engineering	• Basic science and technology to understand the damage and control mechanisms of hazards covered; types of	2-3	4	7	

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
		machinery and processes; and their functioning and hazards.				
		• Standards relating to "state of the art and best available technology"	1-2	3		
		• Use of technical standards	2-3	3		
		• Use of hazard monitoring equipment (e.g., noise, ventilation, chemicals, etc.)	2-3	2		
		• Interpretation of results of hazard monitoring	1-2	3		
F.	**Underlying management sciences:**					
27.	Organizations	• Governance arrangements		3		38.2
		• Impact of reporting structures		3		38.2
		• Organizational structure, departments' functions, roles and responsibilities, authority and accountability	2-3	3-4	10.1	38.2
		• Organizational goals and strategy	2-3	4	10.1	38.2
		• Resource allocation processes	1-2	3-4		38.2
		• Principles of change management	2-3	4		
28.	Project management	• Key requirements for successful projects	0-1	3-4		
		• Project conceptualization and design		3-4		
		• Project planning, budgeting, implementation and monitoring	0-2	3-4		
		• Project evaluation	0-2	3-4		
29.	Strategic and operational planning	• Managing self	2-3	4		
		• Operational and strategic planning	0-2	3-4	10.1	
		• Managing others		3-4		
		• Human resources management/management of people		2-4		
30.	Business imperatives	• The Organization operating as a commercial entity with a range of stakeholders and attendant pressures, including costing and budgeting in their own area of responsibility	0-2	3-4	9, 10.1	38.2
		• Financial literacy in a business context, including budgeting	0-2	3		38.2
		• Business case development and cost-benefit analysis		3		38.2

Code	Knowledge category	Illustrative generic topics	OHS Practitioner	OHS Professional	OHS BoK Ch No[4]	OHS BoK planned or in development Ch No
		• Legislation and organizational arrangements relating to terms and conditions of employment, employee rights, consultation and participation	1-2	3	9	38.2
		• Understanding of external environment, including legal and market pressures		3-4	9	38.2

Hazard types managed

While some hazards are more in the OHS specialist's core knowledge, others are seen as peripheral and may require expertise from specialist professions, such as occupational hygiene, occupational medicine, organizational/occupational psychology, ergonomics, fire protection, environmental engineering and management or other related specialities. In such cases, the role of the OHS Professional and Practitioner will be to liaise with those professional specialists for more complex problems or ones requiring deeper knowledge.

The following table lists the hazards that an OHS specialist could be expected to manage. It is based on the energy-damage categorization developed by Haddon[16] and Gibson.[17] It reflects the origins of the OHS professional in technological disciplines and machinery hazards, with a later, but fairly universal, move to include chemical and working environment hazards. Some countries have seen a move also into psychosocial (e.g., stress, conflict, harassment, etc.) and/or environmental (e.g., pollution, biodiversity, degradation, etc.) hazards.

OHS specialists need to understand the nature of the hazards; their modes of entry into or effect on the body (and mind) of those exposed and on the physical environment, their mechanisms of harm to people and other assets (including exacerbating circumstances, e.g., working alone, pregnancy, etc.). They also need to understand the methods of assessment and measurement of the risk associated with each hazard as well as the principles and practice of prevention and control relevant to each of the hazards in the core of the OHS specialist role for a particular organization, country or jurisdiction. These constitute the underpinning science related to each of the various hazards. The depth and breadth of this underpinning knowledge will vary with the Professional or Practitioner role and the complexity of the hazard and context. Some indications of the underpinning science are given in Section 5 on the knowledge underpinning practice. This document does not allocate different categories of hazards to Professionals and Practitioners.

[16] Haddon Jr, W. (1973). *Energy Damage and the Ten Counter-Measure Strategies.* Human Factors Journal, August.

[17] Gibson, J.J. (1961). The contribution of experimental psychology to the formulation of the problem of safety—a brief for basic research. In: *Behavioral Approaches to Accident Researc*h. New York: Association for the Aid of Crippled Children, pp 77-89.

OHS hazard types

Hazard type	OHS BoK Ch No	**OHS BoK planned or in development, Ch No**
Gravitational, including specialized technical and construction hazards	27	
Falls from height	27	
Falling objects, lifting equipment	27	
Slips, trips and falls on level and stairs	27	
Biomechanical	16	
Manual lifting/handling	16	
Postural (including seating)	16	
Repetitive strain	16	
Electrical and (electro)magnetic	23	
Chemical	17	
Toxic, carcinogenic, teratogenic and corrosive chemicals, fibers and dusts	17	
Nanoparticles		17
Sensitizing agents (for asthma, dermatitis)	17	
Fire and explosion	17.3	
Thermal environment		
Heat and cold	26	
Hot work		
Noise	22	
Vibration (whole body and hand/arm)	22	
Equipment under pressure/pressure vessels	28	
Powered plant (kinetic and potential energy)	28	
Flying objects ejected from machinery processes	28	
Entanglement in moving parts of static machinery (including robots)	28	
Use of portable power tools		
Moving plant/vehicles (kinetic and potential energy)	29	
Occupational road use	30	
Subsidence and collapse		
Structural failure		
Psychosocial hazards		
Workload/stress	19	
Fatigue	20	
Impacts on wellness		
Bullying and harassment	21	
Aggression (people/animals)	21	
Violence at work	21	
Hazards in special work environments		
Confined spaces (including asphyxiant atmospheres)		
Drowning/diving		
Higher than atmospheric pressure		
Computer/monitor screen, including control rooms		
Biological hazards (including occupational pathogens)	18	
Infectious diseases	18	
Indoor air quality (spores, pollens, prions, etc.)		
Ionizing radiation	24	
Nonionizing radiation (including lasers, UV, radio frequency, etc.)	25	
Hazards of the natural environment (earthquake, flooding, storm, tornado, etc.)		

Attachment: OHS BoK chapter list

Conceptual structure of the Core Body of Knowledge for the Generalist OHS Professional

In development
Planned (other topics may be added as need identified)

Introduction	2	Introduction
	3	Role of OHS Professional
Global concepts		
Work	4	Work
Health	5	Health
Safety	6	Safety
Technical concepts		
Foundation science	*7*	*for understanding hazards, mechanism of action and so control*
Socio-political context	8.1	OHS law and regulation in Australia
	8.2	Principles of OHS law
	9	Industrial, technological and business imperatives
The organisation	10.1	The Organisation
	10.2	Organisational culture
	10.3	Appreciative safety
	10.4	OHS performance evaluation
Systems	11.1	Systems
	11.2	OHS management systems
	11.3	**Managing process safety**
	11.4	Rules procedures and documentation
Human (individual)	12	As a biological system
	13	Basic psychological principles
	14	Basic principles of social interaction
Hazards and their mechanisms of action and related controls	15	Hazard as a concept
	16	Biomechanical
	17	Chemical hazards
	17.2	Management of chemical hazards
	17.3	**Process hazards (Chemical)**
	18	Biological
	19	Psycho-social hazards and occupational stress
	20	Psychosocial: Fatigue
	21	Psychosocial: Bullying, aggression and violence
	22	Physical: Noise
	22.2	Physical: Vibration
	23	Physical: Electricity
	24	Physical: Ionising radiation
	25	Physical: Non-ionising radiation
	26	Physical: Thermal (hot/cold environments, processes and objects)
	27	Physical: Gravitational (people and things falling from heights), slips and trips
	28	Physical: Mechanical plant

	29	Physical: Mobile plant
	30	Physical: Vehicles and occupational road use
Risk	31.1	Risk
	31.2	OHS Risk and decision-making
		People, psychology and risk
Causation	32	Models of occurrence causation (safety)
	33	Models of causation (health determinants)
Control	34	Control: Prevention and intervention
	34.2	User-centred safe design approach to control
	34.3	Engineered safe design
	34.4	Design of good work (for psychological health)
	34.5	Occupational health
	34.6	Fitness for duty
	35	Mitigation: Health impacts
	36	Mitigation: Emergency planning
Practice	37	Introduction to Practice
	38	Model of OHS practice
	38.2	Working in organisations
	38.3	Leadership and the OHS Professional
	38.4	Professional practice and ethics
	39	The OHS Professional as critical consumer of research
	39.2	The OHS Professional as a workplace researcher
	40	Incident investigation