



Human Factors and Ergonomics Professional Certification

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Application Instructions

**CORE COMPETENCIES IN HUMAN FACTORS AND
ERGONOMICS (HFE)**

Professional knowledge and skills

Connecting human capabilities with good design

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1. Introduction

Historically, the terms “ergonomics” and “human factors” have been used to mean the same thing in different countries, and sometimes to differentiate between specialty areas. In this document, which is derived from the International Ergonomics Association (IEA), the term Human Factors & Ergonomics (HFE) is used as an umbrella term to include all activities that are characterised by the HFE professional - a person who has acquired the competencies outlined in this certification application document.

The focus of HFE

Regardless of the specialty or the Domain of application, the focus of HFE is to improve human performance and well-being by incorporating the human into the system through an integrative design of the whole system. This requires consideration of all aspects, not only the physical, cognitive, or organisational aspects of the work system, but also environmental and cultural aspects.

Additionally, a key aspect of contemporary HFE practice is stakeholder engagement. HFE practice involves a participative process where the wishes of multiple stakeholders need to be included.

The scope of HFE

The scope of the implementation of HFE is broad, with professionals active today in many domains eg. engineering, medicine and health, psychology, economics, etc.. In fact, HFE can be applied to all environments where human activities are involved: Humans at home, humans at leisure...they are all within the scope of HFE. HFE professionals can be involved in both pro-active and retro-active problem solving. HFE should be engaged throughout the lifecycle of a system. This includes conceptualisation, design, build/manufacture, operation, maintenance, and disposal. The core competencies should be interpreted with this breadth of scope in mind. The contexts for HFE practice are very diverse and competence must relate to the most common workplaces or areas of activity in any region or cultural group.

Application for certified professional status in HFE

To become a recognised professional in HFE in Australia you are required to submit an application and undertake an assessment which reflects the significant major areas, or bodies, of professional knowledge and skill in HFE.

The following tables list both the Units of Competency and the Elements of Competency which describe the components which contribute to and build a unit of competency. The Units of Competency provide a concise overview of the core of the HFE profession.

It is expected that your application for certification will provide evidence of competence across all of the summary Units, although not all the suggested points listed under the elements and the performance criteria need to be addressed. You will be asked to provide more evidence in some of the Units; this reflecting the weightings identified as practice priorities by current Australian CHFEPs/CPEs.

The detail given under each of the Elements of Competency is used to illustrate and give examples of professional work for each one. There is no intention that any one ergonomist is expected to show competence on all these points, but they should be aware of all and be competent in a significant number.

2. The assessment process

The assessment process requires you to demonstrate achievement against the competencies in several ways:

- Through evidence of relevant qualifications and training.
- Through evidence of current and past employment
- Through reflective assessment with evidence provided to support claims of compliance against the competencies.
- Through two referee statements. Referees will be familiar with the work performed by the applicant and their competence.

3. Completing your application – general instructions

Before you start

Please ensure that you are familiar with the [HFE Professional Competency Standards](#) which are listed later in this document, and the HFESA [Code of Conduct](#) prior to completing this application. These documents will guide you in the process as you reflect upon your education, employment, skills and knowledge as an HFE professional and how you are able to demonstrate competencies in each of the domains.

The Units of Competency below are considered necessary for the competent practice of HFE and define the profession. All Certified HFE Professionals should meet the broad aims of these competencies.

Completing the application

The application should be completed in full, by providing as much detail as possible for all sections. Use links to evidence where applicable. This is a comprehensive process

and it is likely it will take you some time to complete and to compile the necessary supporting documentation. This document contains the instructions and a table listing all the Competencies and sub-competencies, as well as a form to fill in with your referee information (section 9) and a declaration (Section 10), which must be completed and uploaded into your folders.

All supporting documentation with your application should clearly indicate exactly which competency/competencies each document is addressing and which parts of the document are relevant, and should be uploaded to your dedicated OneDrive (this will have been provided to you separately).

Submitting your application

Once completed, please upload each section of your application (in Word format) into your dedicated folders along with all your supporting evidence.

Applications are reviewed initially by the Secretariat for completeness. If the application is incomplete, the Secretariat will request additional information from you. The quality of the application will not be assessed at this point.

Referees will be contacted as part of the assessment process if required.

Review of your application

Once the completed application has been received, and all supporting evidence and references have been provided, all documentation will be provided to the HFE PABA Certification Committee for review.

Once the Committee has reviewed the application, a decision will be communicated to you.

4. Your Curriculum Vitae

Please load your full Curriculum Vitae (CV) onto OneDrive in your application folder in a file clearly labelled “CV”. Please note the CV should focus primarily on your experience, knowledge and skills related to certification competencies. You may draw on elements of your CV for the rest of your application so please expand on relevant information in the subsequent sections as appropriate. The PABA Certification Committee may choose not to refer back to your CV to gather information relevant to the rest of the application, so it is your responsibility to document this in the appropriate sections.

Current full CV	Uploaded to OneDrive? ☐
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Professional memberships and registration

This section relates to any/all current professional organisation memberships, in addition to Human Factors & Ergonomics Society of Australia (HFESA) membership, if applicable.

Again, please address this in a word document and upload if in a file labelled Professional Memberships and registration in your folder. In this section, list current membership of other professional organisations and date joined . Please also provide evidence of membership by uploading documents clearly labelled (e.g. membership certificate XXX) into your folder on the One Drive provided.

5. Qualifications and training

This section relates to all of your relevant qualifications and training. Again you need to provide a word document with this information, saved into your folder on the OneDrive.

To be considered for recognition under the PABA program, applicants must have tertiary qualifications in human factors and ergonomics of some other form of relevant recognised tertiary credentials e.g. a medical degree plus systems engineering qualification. Please provide details and evidence of qualification by uploading documents (e.g., transcripts, certificates) to tyour OneDrive application folder.

Please also provide details of other relevant formal training (e.g., short courses, workshops, etc.) that you have undertaken that you believe contribute to the required competencies. We do not require copies of certificates for training courses.

6. Employment

Your work experience will contribute significantly to your competence across the domains of the HFE Competency Standards.

This section seeks details about your current and previous employment (if applicable). Please provide as much detail as possible, including providing detailed job descriptions in the OneDrive. You can draw on this information again when providing details against individual competencies in the next section. Again, please provide in a word document and upload into a folder labelled “Employment”.

Current employment

Please provide details of your current or most recent employment in human factors and ergonomics and upload additional details into the OneDrive file.

Please include the following information:

- Your current role
- Your employer
- Your department
- Years in your current role
- Your industry
- Main responsibilities
- And a job description of available

Previous employment

Please provide details of previous positions held in HFE.

Please include the following information:

- Your role
- Your employer
- Your department
- Years in your current role – when and how many
- Your industry
- Main responsibilities
- And a job description of available

7. Evidence of competency

Each of the Competency Units and Elements listed in the following table. You need to provide a description of your competency against these Core elements and sub-units and how this has been achieved through your education, training and work experience. This table below describes the Competencies, and you will use this as a guide to gather and collate the information and evidence you wish to provide.

In addition to the general description, please provide specific examples of your work that reflect each area of this competency and the relevant elements or sub-units with clear identification of which examples link to which competencies and why/how. This evidence might include de-identified reports, worker/manager information, policies,

procedures and so on. Please save these examples/evidence to the folders via OneDrive link provided. This evidence may be relevant across a number of units or elements so please save to each relevant OneDrive folder to facilitate review and clarity of evidence links by the PABA Certification Committee. If you can, please provide hyperlinks for your files which you can then insert in the excel summary sheet. You may use the one document for evidence of more than one competency, but you must make it clear each time it is used, which section applied to which competency e.g. by highlighting as relevant to each time you upload it, or identifying the relevant page and line numbers for that particular competency.

The PABA Certification Committee will seek to establish from the evidence presented in each section whether you, the candidate, meet the recognition requirements, so please include all relevant evidence for each domain. The Committee will consider what is presented in the Excel summary sheet and all linked files in your folders and will not attempt to infer competency from details provided elsewhere in the application (such as the CV, qualifications, training and employment history sections).

In your drop box, you should have a separate folder in which you put your CV, training, employment etc. documents then another for each of the Competencies that you are addressing. Each of the Competency folders will contain all the relevant clearly labelled evidence for that competency and its' core elements. Each piece of evidence you provide must be placed in the folder for each Core element, clearly labelled to identify each item of evidence to which it is linked. You must also clearly identify the relevant section within each evidence document, (eg. highlight sections; insert lines and note the relevant line numbers). As noted above, you may use the same document as evidence for more than one Core element, but if you do so you must put a different copy of the document in the folder/file for each Core element and make it clear which sections apply to which evidence each time the document is used.

8. Core Elements of Human Factors and Ergonomics

Our certification is based on the IEA “*CORE COMPETENCIES IN HUMAN FACTORS AND ERGONOMICS (HFE) Professional knowledge and skills*” which are listed below with the sub-competencies (red font). It is suggested that you also review this [IEA Professional HFE Competencies document](#), including the Glossary, which should assist you in preparing your evidence as you reflect on the elements within each competency.

The points below each of the seven Core competencies provide information on the scope of knowledge required for each element within the Core Competency Units. These are prompts for thinking about reflecting on your competencies and evidence. It is not essential for HFE professionals to have full knowledge of all of these points.

You will see at the introduction of each of these Core Units (and on the Excel Summary sheet), a note identifying the minimum number of its sub-units for which you need to provide evidence of competency. You can address more than the minimum number if you choose to do so.

The Table below lists the IEA Core Elements and the minimum number of sub-units within each of these Elements for which you need to provide evidence in your application. The evidence you provide must be placed in your drop box with the file title clearly indicating the number of which Core element each item of evidence is linked to and the relevant section within each document clearly identified. The excel sheet is then used to summarise the content of your application, with clear notation of which files relate to which element, with hyperlinks to those files where possible.

Please make sure you provide two referee contacts, which will be used as required, and also that you sign the declaration at the end of this document before submission.

IEA PROFESSIONAL COMPETENCIES UNITS AND SUB-UNITS	Minimum number of sub-units required
CORE ELEMENT 1: FOUNDATION KNOWLEDGE (baseline education)	All of these sub-units
CORE ELEMENT 2: HFE MEASUREMENT AND ANALYSIS SKILLS HFE	7 sub units
CORE ELEMENT 3: HFE EVALUATION SKILLS	10 sub units
CORE ELEMENT 4: HFE RECOMMENDATION SKILLS	12 sub units
CORE ELEMENT 5: HFE IMPLEMENTATION SKILLS	9 sub units
CORE ELEMENT 6: SCIENTIFIC SKILLS (baseline education)	3 sub units
CORE ELEMENT 7: PROFESSIONAL SKILLS	11 sub units

CORE ELEMENT 1: FOUNDATION KNOWLEDGE

CPEs identified the elements within this unit as the most important to practice as foundation knowledge on which we build as professional practitioners. You may cite your HFE study content as evidence if relevant. **You need to address all of the sub-competencies in this core element.**

Applicant has a basic understanding of the sciences necessary for a HFE assessment. This knowledge must be sufficiently broad to conduct a holistic systems approach. These cover the physical, physiological, cognitive, organizational, environmental and cultural aspects of the work environment.

1.1 Understands the theoretical concepts and principles of biological, physical and environmental sciences relevant to HFE

- 1.1.1 *Has a working knowledge of functional anatomy and biomechanics and understands how they determine human performance.*
- 1.1.2 *Understands the principles of anthropometry and how they should be applied to workplace and tool design.*
- 1.1.3 *Has sufficient knowledge of basic sensory physiology (particularly vision, touch, hearing, proprioception) and understands how they affect performance.*
- 1.1.4 *Understands the effects of the environment (illumination, thermal, acoustic, vibration) on human health and performance.*
- 1.1.5 *Has a basic awareness of adverse chemical conditions and major pollutants that affect health and performance.*

1.2 Understands the theoretical concepts and principles of social, behavioural and emotional science relevant to HFE.

- 1.2.1 *Can apply knowledge of cognitive psychology, particularly perception processes, information processing and decision making and as they relate to human performance and causes of human error.*
- 1.2.2 *Understands the influences of human development principles and ageing on performance.*
- 1.2.3 *Understands how emotional responses, attitude formation and motivation influence human performance.*

1.3 Understands basic engineering concepts relevant to HFE

- 1.3.1 *Understands the principles of system theory relevant to HFE.*
- 1.3.2 *Understands the role of humans in technological systems and understands the limitations of technology design.*
- 1.3.3 *Demonstrates an understanding of the basic technologies common in human activities, for example, human-computer interaction.*

1.4 Understands basic management concepts and practices relevant to HFE

1.4.1 Understands the basic principles of organisational management relevant to human performance and well-being, such as individual and organisational change techniques, including training, work structuring, shift work, and motivational strategies.

1.4.2 Understands the terminology of management theory and has a basic understanding of management tools affecting performance and well-being, for example, quality management, employee engagement surveys, benchmarking.

1.4.3 Understands productivity and how it is measured within enterprises, and the factors that commonly influence it.

CORE ELEMENT 2: HFE MEASUREMENT AND ANALYSIS SKILLS

Conducts HFE assessments using a systems approach and appropriate methods for measurement and analysis. HFE professionals may be specialised in only one or two application domains. This may limit their expertise in using measurement methods from other domains, however awareness of them is necessary. This Unit has 10 sub-units.

You need to provide evidence for at least 7 of the sub-competencies in this core element.

2.1 Applies a holistic systems approach to the analysis.

2.1.1 Understands the diversity of factors influencing human performance and quality of life within an organisation, the user, the planned or existing (workplace) environment, the tasks, the products used, and their interrelationships, and has a holistic approach to assessing demands.

2.1.2 Uses a systems approach for defining the task, tools or technology, environmental and organisational factors relevant to HFE projects

2.2 Appropriately identifies the factors influencing health and human performance in a variety of contexts.

2.2.1 Can define user needs in terms of efficiency, safety, reliability, durability, health and comfort criteria, and ease of use of products, equipment and work organisation.

2.2.2 Accesses sources of appropriate information and describes the scope of information required for assessment of relevant HFE factors.

2.2.3 Uses activity analysis and participatory methods to ensure an understanding of work as it is really done rather than as it was imagined, prescribed or disclosed.

2.2.4 Understands the impact of individual factors on other possible factors, such as the work team, and the implications for HFE assessment.

2.3 Analyses current HFE guidelines, national legislation international standards relevant to their professional activity.

2.3.1 Refers to and applies relevant national and international recommendations and standards appropriate to the analysis.

2.4 Demonstrates an understanding of methods of measurement relevant to HFE appraisal

2.4.1 Is familiar with common data acquisition, understands the type of quantitative and qualitative data required for HFE appraisal and knows how to explain the scientific or empirical rationale for the measurements selected.

2.4.2 Demonstrates the ability to carry out appropriate surveillance and identification of the nature and magnitude of risks to well-being and productivity.

2.4.3 Applies appropriate measurement procedures and has the expertise to use HFE measurement instruments effectively

CORE ELEMENT 3: HFE EVALUATION SKILLS

Determines the compatibility of human capabilities and limitations to planned or existing demands using a systems approach and considering the requirements of stakeholders. This Unit has 10 sub-competencies.

You need to provide evidence for all of these 10 the sub-competencies in this core element.

3.1 Appreciates the extent of human variability influencing design.
3.1.1 Understands the diversity in user body size, skills, physical and cognitive abilities, age, sensory capacity, motivations, general health and experience and can assess individual and collective requirements and risks
3.2 Evaluates products or activities in relation to users and other stakeholder requirements.
3.2.1 Identifies all relevant stakeholder requirements 3.2.2 Carries out a systematic, efficient and goal-orientated review of demands on people in their interactions with material, tools, equipment, technologies, environments and services. 3.2.3 Appropriately evaluates how well user needs are met. 3.2.4 Consults appropriately with all stakeholders regarding analysis and interpretation of findings. 3.2.5 Specifies the indicators of poor match between people and their tools, equipment, technologies, environments and services. 3.2.6 Demonstrates an understanding of the HFE principles of human-machine interface technology.
3.3 Identifies potential or existing high risk areas and high risk tasks and the risk of human error
3.3.1 Understands the concepts and goals of risk assessment and risk management. 3.3.2 Demonstrates up-to-date knowledge of the local legal requirements relevant to safety and HFE design. 3.3.3 Has a basic understanding of crisis management.
CORE ELEMENT 4: HFE RECOMMENDATION SKILLS – Makes appropriate recommendations for HFE design, redesign or intervention. Using a systems approach, develops a plan in collaboration with the appropriate people. <i>Depending on the field of activity, recommendations may relate to organisational management, physical environment, tools, equipment, technologies, services or a combination of any of these. This is the longest section with 17 sub- competencies You need to provide evidence for at least 12 of the sub-competencies in this core element.</i>
4.1 Adopts a holistic systems view of HFE in developing solutions
4.1.1 Prefers reasonable and justified adaptations of organizational systems and technical solutions to behavioral change solutions – adapting the work, workplace and tools to the human, rather than adapting the human to the work.
4.2 Outlines appropriate and scientifically valid recommendations for HFE design
4.2.1 Recognises those aspects of the problem and/or environment that are flexible and amenable to HFE intervention. 4.2.2 Provides design specifications and guidelines for design or redesign based on HFE measurement and analysis. 4.2.3 Applies relevant scientific theory and makes evidence-based recommendations. 4.2.4 Considers alternatives for optimisation of the HFE quality, including short- and long-term goals. 4.2.5 Considers the cost effectiveness of alternative solutions in terms of human well-being, improvement in productivity, and product usability, as appropriate
4.3 Understands emergence and how to consider it within the designing process
4.3.1 Recognizes that all systems will display characteristics and operate in ways not expected or intended by the designer. 4.3.2 Understands how to deal with emergent system** properties where human users are involved and develops strategies to achieve a healthy and safe human environment. <i>**Emergent properties: Understanding properties or behaviours which emerge only when the parts interact in a wider whole. Dealing with unanticipated outcomes of an intervention or design process, that may not be predicted from the individual parts.</i>

4.4 Understands the importance of a participatory approach to designing solutions
4.4.1 Recognises stakeholders needs, incorporating these, as appropriate, in the design process.
4.4.2 Recognises that user participation increases the quality of developed recommendations and their acceptance and promotes their involvement.
4.4.3 Can work in a team to achieve communal goals.
4.5 Understands that designing for all is rarely achievable and responds appropriately
4.5.1 Is aware of population diversity factors such as culture, age, gender, size, health status, etc.
4.5.2 Is aware of the limits to the effectiveness of education and training in HFE solutions.
4.5.3 Can develop appropriate HFE training programs, when necessary.
4.5.4 Can generate appropriate personnel selection criteria based on HFE principles, when necessary
4.6 Understands the hierarchies of control systems and design methodology for systems development
4.6.1 Uses the systems approach to integrated design for new or modified systems.
4.6.2 Recognises the safety hierarchy, application of primary and secondary interfaces (controls and displays) and the order of introducing them.
CORE ELEMENT 5: HFE IMPLEMENTATION SKILLS – Collaborates with stakeholders to implement recommendations to optimize human wellbeing and performance. Documents HFE findings, records interventions appropriately. This section has 11 competencies for you to rate. You need to provide evidence for at least 9 of the sub-competencies in this core element.
5.1 Communicates effectively in a participatory manner with clients and other stakeholders at all levels and professional colleagues.
5.1.1 Discusses with the client, users and management the design or intervention strategies available, their rationale, realistic expectations of outcome, limitations to achieving outcome, and the costs of the proposed HFE plan.
5.1.2 Engages stakeholders and establishes effective relationships and collaborates effectively with professional colleagues in other disciplines in the development of HFE design solutions.
5.1.3 Uses appropriate processes to motivate the client to participate in the recommended HFE program.
5.1.4 Where necessary, provides HFE guidelines for personnel in a form understandable to the user and other stakeholders.
5.2 Manages change efficiently and effectively
5.2.1 Uses a systems approach to integrate HFE with other design elements.
5.2.2 Develops a balanced plan with priorities for risk control.
5.2.3 Uses basic project management skills to steer the implementation of agreed measures and monitor progress.
5.2.4 Understands the iterative nature of design development.
5.2.5 Recognises the practicalities and limitations of applying HFE, including the introduction of change.
5.3 Provides appropriate feedback to the client and other stakeholders on findings and recommendations.
5.3.1 Documents activities and findings appropriately.
5.3.2 Produces clear, concise, accurate and meaningful records and reports
CORE ELEMENT 6: SCIENTIFIC SKILLS The depth of research skills adapts to the desired future employment (academic versus practitioner). You need to provide evidence for at least 3 of the 5 sub-competencies in this core element.

6.1 Understands and can apply the basics of data collection and analysis, including experimental methodologies and statistics
6.1.1 <i>Has sufficient knowledge of statistics and research methods to assess the quality of a scientific research paper. More detailed knowledge is necessary if the HFE professional works in research.</i>
6.2 Effectively evaluates the results of HFE design or intervention
6.2.1 <i>Selects appropriate criteria for project evaluation, including user acceptance and customer satisfaction.</i>
6.2.2 <i>Selects appropriate tools to measure the appropriate outcome criteria.</i>
6.2.3 <i>Makes judgements on the quality and effectiveness of HFE design or intervention.</i>
6.2.4 <i>Remains prepared to modify solutions in accordance with results of evaluation, where appropriate.</i>
CORE ELEMENT 7: PROFESSIONAL SKILLS Engages stakeholders and demonstrates professional behaviour, in accordance with ethical principles. You need to provide evidence for at least 11 of the 12 sub-competencies in this core element.
7.1 Shows a commitment to ethical practice and high standards of performance
7.1.1 <i>Is aware of current international and/or national professional codes and standards of professional behaviour and behaves in a manner consistent with them.</i>
7.1.2 <i>Demonstrates rational, critical, logical and conceptual thinking.</i>
7.1.3 <i>Critically evaluates new concepts and findings in terms of human well-being, short and long-term.</i>
7.1.4 <i>Respects the privacy of professional contacts and acts responsibly in terms of the social and psychological impact of HFE investigations.</i>
7.2 Acts in accordance with legal requirements
7.2.1 <i>Fulfils government legislation relating to occupational health, control of environmental hazards and other areas relevant to HFE practice.</i>
7.2.2 <i>Takes appropriate action regarding industrial, legal and liability issues that impact upon professional HFE practice</i>
7.3 Recognizes personal and professional strengths and limitations
7.3.1 <i>Shows willingness to consult and collaborate with others as part of a multidisciplinary team.</i>
7.3.2 <i>Is aware of their own scope of practice and knows when to refer to another discipline or another HFE practitioner or researcher.</i>
7.3.3 <i>Maintains contact with other HFE professionals e.g. networking opportunities.</i>
7.4 Demonstrates lifelong learning, to ensure that HFE knowledge and skills are up-to-date
7.4.1 <i>Maintains up-to-date knowledge of concepts, knowledge, procedures and strategies relevant to HFE practice.</i>
7.4.2 <i>Regularly reviews and updates knowledge and skills relevant to current practice of HFE and the latest tools and methods relevant to HFE work, (ensures continuing professional development (CPD)).</i>
7.5 Has a clear concept of professional identity and recognizes the impact of HFE on peoples' lives
7.5.1 <i>Understands and can explain the "added value" of HFE.</i>

9. Referee information

Please provide details of two referees. The nominated referees should be put forward on the basis that they can substantiate your employment and practice history as well as comment on your performance across the domains of the PABA & IEA Professional Competencies.

Referees will be requested to complete a reference form structured according to the competencies. This form will be emailed to them once your application has been submitted.

Referee 1	
Name	
Company	
Position	
Email address	
Phone	
Professional relationship	
Referee 2	
Name	
Company	
Position	
Email address	
Phone	
Professional relationship	

10. Applicant declaration

I hereby declare that the information given by me in this Application is true, complete and correct to the best of my knowledge.

I also declare that I have not used any generative AI tools or technologies in the preparation of my certification application.

Name	
Signature	
Date	

