

Human Factors/Ergonomics Competencies Self-Assessment

Name:

Criteria for Registered Membership

Section 1 through 4 – Minimum level 3 on **all** criteria

Section 5 **or** section 6 – Minimum level 3 on **all** criteria

Proficiency levels: 0 = Unaware 1 = Aware 2 = Novice 3 = Intermediate 4 = Advanced 5 = Expert (see guide on last page)

Competency	What is your current level of proficiency? (1-5)	Evidence: What evidence, have you got to back up your proficiency claim? (e.g. academic transcript, log book entry, report, publication, event attendance, training course completion)
1. Ergonomics/Human Factors (E/HF) principles		
1 Ability to identify and apply methods of analysis, evaluation and validation with respect to human interfaces for tasks, activities and environments.		
1.1 Demonstrate capability to apply E/HF principles in optimising system performance and wellbeing across all ages and capabilities.		
1.2 Demonstrates ability to enhance health, safety, comfort, quality of life, attitudes, motivation, usability, effectiveness and efficiency.		
1.3 Demonstrates ability to identify potential and existing high-risk tasks, activities and environments.		
2. Ergonomics/Human Factors (E/HF) theory and practice		
2.1 Understands theoretical and practice bases for analysis of human interactions.		
2.1a Demonstrates use of E/HF theories, methods and tools for analysis of systems, tasks, workload (physical and mental)		
2.2 Understands the theoretical and practice bases for (re)design of <u>human interfaces</u> (physical and mental).		
2.2a Demonstrates consideration of influence factors such as a person's body size, skill, cognitive abilities, age, sensory capacity, general health and experience.		
2.2b Demonstrates ability to integrate/evaluate E/HF principles and concepts into systems, interface and product design including requirements development and validation of user needs for safety, efficiency, reliability, ease of use/usability.		

<p>2.2c Demonstrates the management of E/HF risks, including priorities and mitigations; potential benefits and costs of E/HF solutions; short and long term goals relevant to defined problems.</p>		
<p>2.2d Can apply relevant legislation, codes of practice, standards (government and industry) for requirement specification and/or design evaluation</p>		
<p>2.3 Understands the theoretical and practice bases for data collection and analysis relating to E/HF.</p>		
<p>2.3a Understands the type of quantitative and qualitative data required for E/HF appraisal and design; so as to:</p> <ul style="list-style-type: none"> - apply the basics of experimental design and statistics. - apply the basics of qualitative study design and analysis including knowledge elicitation, interviews, document analysis, and observation. 		
<p>2.3b Demonstrates ability to comply with relevant ethical and GDPR guidelines for E/HF data collection and analysis.</p>		
<p>3. Design and development of <u>systems</u> (including products, tasks, jobs, organisations & environments)</p>		
<p>3.1 Understands the theoretical and practice bases for E/HF relating to design and development of systems.</p>		
<p>3.1a Demonstrates an understanding of the principles of E/HF and human-machine interface technology including hardware, software, internet and network based technologies and social media from a system perspective.</p>		
<p>3.1b Understands the requirements for safety systems, the concepts of risk, risk assessment and risk management.</p>		
<p>3.2 Utilises a systems approach to the human-aspects of the specification, design, assessment and acceptance of products, services and human factors interventions.</p>		
<p>3.2a Applies E/HF principles to design of systems (and services), products, job aids, controls, displays, instrumentation and other aspects of tasks and activities.</p>		

4. Professional skills and implementation

4.1 Develops appropriate recommendations for education/training/policies in relation to E/HF principles.

4.1a Developed education/training/policies relevant to application of E/HF principles.

4.1b Implemented effective education/training programmes/policies relevant to understanding the introduction of E/HF measures.

4.2 Understand and support the application and evaluation of an E/HF plan in change strategies.

4.2a Develop and implement methods for continuous improvement. Recognises the safety hierarchy, application of primary and secondary controls and the order of introducing control.

4.2b Produces clear, concise, accurate and meaningful criteria for evaluation and produce reports.

4.3 Shows a commitment to ethical practice and high standards of performance and acts in accordance with legal requirements (all criteria need to be met).

4.3a Behaves in a manner consistent with accepted codes and standards of professional behaviour.

4.3b Recognises the scope of personal ability for E/HF analysis and when it is necessary to consult and collaborate with different professional experts.

4.3c Demonstrates commitment to ongoing professional development by maintaining skill set and an awareness of wider E/HF practice.

5. Human capabilities and limitations

5.1 Understands the theoretical and practice bases for E/HF relating to physical capabilities and limitations.

5.1 Demonstrates a working knowledge of anatomy, functional anatomy, anthropometry, physiology, pathophysiology, and environmental sciences as they apply to E/HF practice.

5.2 Can apply knowledge of biomechanics, anthropometry, motor control, energy, forces applied as they relate to stresses and strains produced in the human body.

<p>5.3 Understands the effects of the environment (including acoustic, thermal, visual, vibration) and individual sensory response (sight, hearing, touch, taste, smell) on human health and performance.</p>		
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6 Understands the theoretical and practice bases for E/HF relating to psychological and social capabilities and limitations.

6.1 Can apply theoretical concepts and principles of social and psychological sciences relevant to E/HF.		
5.2 Recognises psychological characteristics and responses and how these affect health, human performance, attitudes, perception, stress, human reliability and error.		
6.3 Can apply knowledge of human information processing (including situation awareness, memory, decision making).		
6.4 Demonstrates a knowledge of systems theory including socio-technical systems and culture (e.g. organisational and safety culture).		
6.5 Can apply principles of group functioning, motivation, engagement and participation.		
6.6 Can apply principles of organisational management including individual, group (team) and organisational change techniques, including training and work structuring.		

Table 1: Proficiency Scale:

As a guide for full membership you need a minimum score of 3 on all relevant categories (1-4) while depending on the route you have taken in your career for section 5 you need to have minimum score of 3 in either 5.1 or 5.2.

Score	Proficiency Level	Description
0	Unaware	You have no knowledge or understanding of this competency.
1	Aware	<i>For a particular competency:</i> You have knowledge or an understanding of basic techniques and concepts. <i>Your professional development:</i> Your focus is on learning more.
2	Novice	<i>For a particular competency:</i> You have limited experience gained in a classroom and/or as a trainee on-the-job. You are expected to need help with this competency. Your focus is on developing through on-the-job experience. You can understand and discuss terminology, concepts, principles and issues, and can use reference and resource materials related to this competency. <i>Your professional development:</i> Your CPD shows responsibility for, and awareness of, your own learning and professional development.
3	Intermediate	<i>For a particular competency:</i> You can successfully complete tasks in this competency independently, though you may need help from an expert. Your focus is on applying and enhancing your knowledge or skill. You understand and can discuss the application and implications of changes to processes, policies, and procedures in this area. <i>Generally:</i> You show awareness of how even a narrowly focused task can draw upon knowledge crossing a variety of different knowledge areas. You can demonstrate the appropriate use of different techniques and methods in the application of human factors research or consultation. <i>Your professional development:</i> Your CPD demonstrates learning outside of your immediate job requirements. Your forward plan shows how you will learn new skills to complement your career path such as management, business administration, marketing, personnel management.
4	Advanced	<i>For a particular competency:</i> You can perform the actions associated with this competency without assistance. You are recognised within your organisation as the go-to person regarding this competency. Your focus is on broad organisational/professional issues. You participate in senior level discussions regarding this competency. You assist in the development of reference and resource materials in this competency, and are capable of training others. <i>Generally:</i> You have responsibility for integrating and delivering programmes of work and meeting deadlines and milestones. You mark, grade and review the work of others in the context of project delivery. You bring together disparate theories and techniques or the application of novel solutions to complex problems. You demonstrate use and application of multiple tools and techniques to more complex projects that require human factors integration. You present the output of work and research undertaken. <i>Your professional development:</i> Your CPD shows awareness of knowledge and skill fade in areas not being practised due to career specialism and provides a plan to compensate. You show consideration of the development of your management and administrative skills so you have greater autonomy and authority over project delivery.

5	Expert	<p><i>For a particular competency:</i> You are known as an expert or recognised authority in this area. You can provide guidance, troubleshoot and answer questions related to this area of expertise. Your focus is strategic. You have demonstrated consistent excellence in applying this competency across multiple projects and/or organisations. You are considered the go-to person in this area within and outside your organisations. You create new applications for and/or lead the development of reference and resource materials for this competency.</p> <p><i>Generally:</i> You contribute to the development and success of the discipline possibly through voluntary activities within the CIEHF. You interact with other strategic thinkers within your community of expertise.</p> <p><i>Your professional development:</i> Your CPD demonstrates communication of learning, teaching or mentoring of others.</p>
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Table adapted from NIH Competencies Proficiency Scale <https://hr.od.nih.gov/workingatnih/competencies/proficiencyscale.htm>

The competencies assessment criteria above have been adapted from a method developed by the Chartered Institute for Ergonomics and Human Factors.