PROFESSIONAL ERGONOMIST CERTIFICATION BY THE ERGONOMICS SOCIETY OF SOUTH AFRICA

II CERTIFICATION OF ERGONOMICS PROFESSIONALS (CHARTER)

From 24 November 2014

II.1 Objective

II.1.1 The International Ergonomics Association (IEA) describes Ergonomics as follows: "Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance. Ergonomists contribute to the design and evaluation of tasks, jobs, products, environments and systems in order to make them compatible with the needs, abilities and limitations of people." (International Ergonomics Association, 2000)

II.1.2 As any ergonomics activity affects the interplay of humans with their environment, it follows that it has a particular responsibility to ensure health and well-being of individuals subjected to a design or intervention. This is particularly the case for delayed effects that occur and that are not perceived at an early stage (such as lower back pain), and for adverse effects on humans that are difficult to predict as such.

II.1.3 The complexity of today's organisations requires dedicated analysis and prognosis capabilities and at the same time limits the options of experimental interventions. Thus, ergonomists are required to further anticipate the social and the economic impacts of any design or intervention program as well.

II.1.4 Ergonomics is multidisciplinary in its nature by integrating different human/life sciences, engineering, social and economic sciences. This requires a specific education in terms of basic knowledge of different disciplines contributing to ergonomics, as well as knowledge of how to synthesize the different approaches to solve ergonomics problems and to cooperate with other professions involved.

II.1.5 There is a growing recognition of the field of ergonomics and human factors. This recognition has brought an increased demand for ergonomic services. Certification, with its requirement to meet a set of standards in training and experience, is important both for ergonomists and for the users of ergonomic services to:

a) protect users of ergonomics services,
b) protect the reputation of ergonomics and
c) improve quality of practice.

II.1.6 This is particularly the case for emerging countries like South Africa in order to:

a) benefit from ergonomics contributions for their further development,
b) develop proper standards for local practice and

c) to ensure inexperienced users of ergonomics services receive a suitable standard of delivery.

II.2 Certification awarded

II.2.1 According to the definition of the International Ergonomics Association (2000) "An Ergonomist is an individual whose knowledge and skills concern the analysis of human-system interaction and the design of the system in order to optimize human well-being and overall system performance."

II 2.2 The Professional Affairs Board of the Ergonomics Society of South Africa (ESSA-PAB) recommends certification to ESSA council for practitioners of Ergonomics (Human Factors) who are engaged in the practice of ergonomics as their primary work and who prove:

a) a mastery of ergonomics knowledge, and

b) a command of the methodologies used by ergonomists in applying that knowledge to the design of a product, process, or environment, and

c) application of his or her knowledge to the analysis, design, test, and evaluation of products, processes, and environments, and

d) professional and ethical behaviour

II 2.3 The certification requirements and procedures are kept consistent with the quality criteria set for an IEA-endorsed certifying body. The certification is hence expected to be accepted by all major international certification bodies (via reciprocity agreements).

II 2.4 In order to meet the different needs for knowledge and practice, the ESSA-PAB has defined two categories of certification:

a) The title of a "Certified Professional Ergonomist (CPE)"

b) The title of a "Certified Ergonomics Associate (CEA)"

II.2.5 The scope of practice of a Certified Professional Ergonomist (CPE) covers the entire range and depth of ergonomics knowledge to address complex problems and advanced ergonomics technologies and methods. A CPE is expected to provide leadership in professional matters, to apply and develop methodologies for analyzing, designing, testing, and evaluating systems and thus may undertake ergonomic analysis and design of interaction objects, work stations and work systems in her/his own responsibility.

II.2.6 A Certified Ergonomics Associate (CEA) is an interventionist who applies a general breadth of knowledge to analysis and evaluation of currently operating work systems. The scope of practice of a CEA is limited to the use of commonly accepted tools and techniques for the analysis and enhancement of human performance in existing systems. CEAs may, for example, be responsible for the co-ordination of an Ergonomics Facilitation team within their own industry to create an awareness of Ergonomics, to identify problems, to implement basic solution and to recognise when to consult a CPE.

II.2.7 The Professional Affairs Board of ESSA will keep and maintain a comprehensive register of all certified ergonomists. This list will be handed out on request and it will be published on the ESSA-PAB website and in other appropriate media.

II.3 Certification Eligibility

II.3.1 For admission to either Certified Ergonomics Associate or Certified Professional Ergonomist the applicant must have:

a) completed an academic education with an additional or an integrated education program that provides a comprehensive set of ergonomics competencies,

b) provide practical experience and expertise in ergonomics,

c) to commit herself/himself to the ESSA Code of Conduct (see Section IV of this document), and

d) paid the certification and maintenance fees and fulfil the other formal requirements for application.

II.3.2 General academic education (ref. to II.3.1a)
Candidates are required to have a tertiary academic education as a basis and to complement ergonomics related education (see paragraph II.3.3). A successful undergraduate education of no less than three years (normally a BSc degree) is required for CEA certification, and a postgraduate education of no less than altogether five years (normally an MSc degree) is required for a CPE certification. Cognate engineering, BA/MA or other degrees of no less than three years (CEA) or five years (CPE) will be accepted as well, provided the courses/modules that contribute to this degree are at least to one third related to ergonomics in its wider field (see section III.5 in the ESSA-Ergonomist Formation Model).

II.3.3 Ergonomics education (ref. to II.3.1a)

(1) An applicant for certification must have knowledge of all domains of ergonomics, namely physical, cognitive, and organisational ergonomics.

(2) Candidates are required to have a formal education in ergonomics of a total of 360hrs for CEA certification and 660hrs for CPE certification, where one hour is considered as one clock hour for contact and/or studies, including 15-30% hands-on exercises with formal assessment. The different areas of education have to be covered with a minimum amount of hours as according to Table 1. For detailed curriculum requirements see section III.3 in the ESSA-Ergonomist Formation Model.

(3) Table 1: Areas of knowledge and topics with corresponding hours. Note that the sum of the different categories is smaller than the total number of hours required. This provides some flexibility for the curriculum. (X)=compulsory.

Area of knowledge	CEA	CPE
A. Ergonomics Principles	≥12hrs	≥16hrs
1. Ergonomics Approach	(X)	(X)
2. Systems Theory		(X)
B. Human Characteristics	≥40hrs	≥65hrs
1. Ergonomics: Physiological and physical aspects	(X)	(X)
2. Ergonomics: Psychological and cognitive aspects	(X)	(X)
3. Ergonomics: Social and Organisational Aspects		(X)
4. Physical Environment	(X)	(X)
C. Work Analysis Measurement	≥50hrs	≥80hrs
1. Statistics and Experimental Design		(X)

2. Computation and Information Technology		(X)
3. Instrumentation		(X)
4. Methods of Measurement and Investigation	(X)	(X)
5. Work Analysis	(X)	(X)
D. People and Technology	≥50hrs	≥80hrs
1. Technology	(X)	(X)
2. Human Reliability		(X)
3. Health, Safety and Well-Being		(X)
4. Training and Instruction	(X)	(X)
5. Occupational Hygiene		(X)
6. Workplace Design		(X)
7. Information Design		(X)
8. Work Organisation Design		(X)
E. Applications (Project)	≥160hrs	≥320hrs
F. Professional Issues	≥5hrs	≥20hrs
Total	≥360hrs	≥660 hrs

(4) The required education might be composed of any combination of courses performed for an academic degree at a nationally or internationally recognised University (e.g. a Master's degree in Ergonomics) and of short courses that are recognised by the ESSA Professional Affairs Board (that will accept any courses registered by the South African Department of Education).

(5) Education that is demonstrated via thesis or peer reviewed publication (towards which the applicant has provided a major contribution) can be considered for the corresponding categories up to one third of the total hours of education required.

(6) An applicant who does not meet the formal educational criteria but provides the required qualification may apply to the Professional Affairs Board for special consideration on the basis of a combination of tertiary study and other professional development experiences. In this case the applicant must demonstrate the achievement of competencies covering the above mentioned domains of ergonomics.

II.3.4 Professional practice in Ergonomics (ref. to II.3.1.b)

(1) The minimum period of relevant ergonomics experience is four years full time (or the equivalent amount part time) for CPE and two years for CEA.

(2) Experience may include working as an ergonomics practitioner, educating others about ergonomics, or conducting ergonomics research, where ergonomics practice also forms part of the person's total activity.

(3) At least two thirds of the professional practice has to be obtained after ergonomics education has taken place. Nested sequences of education and practice will be considered accordingly.

(4) The required amount of professional practice may be shortened by 25% for the time the candidate is assisted by a mentor. A mentor has to have a CPE status and both candidate and mentor have to interact regularly with at least three documented meetings per annum. A report of mentoring has to be submitted with the application.

(5) Applicants must provide a summary of the nature and extent of their experience. This may be in either log or diary format and must include a detailed outline of their experience in ergonomics, showing relevant dates.

(6) Experience has to be demonstrated through the provision of at least one major work sample, supported by one or more work samples or products of smaller magnitude. Additional materials may include items such as an analysis or evaluation reports, designs, trial or deposition testimony, patent applications or patents granted forensic reports, books or book chapters published by commercial publishing houses, scientific articles published in refereed journals. Applicants must further explain how their work products and projects have addressed specific competencies relating to ergonomic analysis, design and evaluation of outcome.

II.3.5 Recognition of members of other associations of equivalent standing

(1) Members of similar standing in other ergonomics associations may apply for recognition by the Professional Affairs Board of ESSA. Such applicants should provide the Professional Affairs Board with details of the criteria used to assess their current membership status, evidence of that status, and current curriculum vitae.

(2) A certification will normally be recommended to ESSA if the applicant has passed an IEA endorsed certification process and that is not inconsistent to the ESSA-PAB certification criteria.

II.3.6 Mature candidates

(1) It is recognized that many of the senior members of the ergonomics community in Southern Africa obtained their education at a time when there were no programs that provided the formal ergonomics focus. As a result of this, it would be impossible for them to demonstrate compliance with the educational criteria without attending courses which, in many cases, they are already qualified to deliver.

(2) Candidates who meet the general academic education equivalent for CPE (Master's degree or equivalent, see paragraph II.3.2) and provide at least 5 years of full time professional experience in ergonomics (or equivalent part time) after graduation, may apply with reference to this clause for a maximum five years after the ESSA ergonomics certification program has been established. However, as all candidates are evaluated against the same criteria, applicants must still give a description of their educational background in ergonomics and provide evidence of practice (e.g. via publications, project reports and other certificates of practice).

(3) In order to provide certification for the initial Board members, a recommendation shall be sought by an established certification Board outside of South Africa (e.g. CREE or BCPE) for each of the initial PAB members. This recommendation shall advice whether the board member would qualify for certification in the respective country or continent. ESSA council shall then process certification to those board members being recommended for certification.

II.3.7 Examination

a) If the candidate shows evidence to fulfil the objective criteria for certification and the corresponding documents are issued by a recognised organisation no further oral or written examination will be scheduled.

b) If evidence cannot be established by submitted documents, but a certification is not necessarily to be refused through violation of certification criteria, a written examination is scheduled by the ESSA-PAB. This examination will be four hours in time and cover all aspects of education and practice (see ESSA-Ergonomist Formation Model). The candidate is recommended for certification if she or he achieves a passing score of minimum 65% in the examination.

II.3.8 Interim designation
Individuals who meet the educational criteria for CEA/CPE certification but are still working towards fulfilling the requirement of the work practice may apply for an interim designation as "Ergonomist in Training" if being designated for CEA, or as CEA if being designated for CPE. Individuals then have a maximum of six years to complete their practice and to apply for transition to CAE and CPE, respectively.

II.3.9 Renewal of certification

(1) Certification is condition to regularly practicing ergonomics and to contributing accordingly to the profession (see section II.4).

(2) Certification is re-evaluated once every five years to check whether those conditions are still fulfilled.

(3) For renewal of certification certified ergonomists are required to submit the appropriate form complemented by a status report that updates the activities list at least six months before end of each five year period.

II.4 Authorisations and liabilities of certified professionals

II.4.1 Certified ergonomists are permitted to use their designation in conjunction with the name of ESSA on calling cards. The logo of ESSA may also be displayed on such a card.

II.4.2 Code of practice
Certified Professional Ergonomists are required to formally accept and abide by the ESSA Code of Practice (see section IV).

II.4.3 Certified ergonomists are listed in a register that is accessible by the public, e.g. via the internet representation of the ESSA-PAB. Candidates have to provide the relevant data and have to agree that a defined set of personal information is published there.

II.4.4 Certified ergonomists of both categories accept a responsibility to actively, and continuously, contribute to the aim of the ergonomics society, i.e. to advance the science of ergonomics by promoting research and education in ergonomics and the application of its principles. This can be achieved, for example, by

- providing contributions to the ESSA journal,
- presenting at scientific and professional meetings,
- presenting at the ESSA national conference and other appropriate conferences,
- publishing research in journals,
- providing contributions to educational institutions,
- providing mentorship to certification candidates and other ESSA members, either formally or informally, and by

- contributing to the functioning of the ESSA through serving in executive or other positions.

II.5 Certification Procedure

II.5.1 Application

(1) Individuals who wish to be considered for admission as a Certified Ergonomics Associate (CEA) or as a Certified Professional Ergonomist (CPE) or to renew a certification must apply to the chairperson of the Professional Affairs Board using the appropriate form.

(2) The application has to be supplemented by documents indicating that the specific educational requirements and professional competencies have been met, such as certified copies of educational certificates, transcripts, employment histories, project reports, logs or diaries etc.

(3) Initial applicants must include the names of at least two referees who can testify to the applicant's overall competence, experience and professional conduct in ergonomics. A referee shall be a professional or a person suitably qualified to provide an opinion on the applicant's ergonomics skills and competences.

(4) The applicant has to indicate that she or he is willing to adopt the Code of Ethics and to meet the other requirements of certification mentioned in section II.4.

(5) The applicant has to pay the application fees as stated by ESSA.

(6) Initial applications and requests for renewal can be submitted at any time.

II.5.2 Constitution of Assessment Panel

(1) The chair of the Professional Affairs Board or her/his deputy convenes an Assessment Panel comprising minimum three members entitled to vote.

(2) All members of the Assessment Panel have to be Certified Professional Ergonomists or have to provide an equivalent title from another IEA endorsed certification body.

(3) In order to support decision making the Assessment Panel may decide to appoint further experts, who are not entitled to vote, during the evaluation process.

II.5.3 Evaluation process

(1) The Assessment Panel checks if an incoming application meets the formal requirements.

(2) The Assessment Panel may call for further information or material from an applicant, and may, with the applicant's permission, consult other persons with regard to an applicant's educational background, experience, competence and conduct.

(3) The Assessment Panel checks the applicant's qualification against the certification requirements. The outcome may be one of the following:

a) The applicant satisfies the minimum criteria and it is recommended to the ESSA council to award the title.

b) The applicant fulfils the formal requirements and provides promising qualification, but not enough evidence is given to satisfy the minimum criteria. In this case the Assessment Panel will appoint a written examination

according to paragraph II.3.8, and, if the candidate scores a passing rate of 65%, it will be recommended to the ESSA council to award the title.

c) The applicant does not satisfy the minimum criteria and the application is rejected.

II.5.4 Conclusion of the application process

(1) Applicants are informed in writing about the results of evaluation, and, in case of an unsuccessful application, about the criteria that were not fulfilled.

(2) Awarded applicants (for both CEA and CPE) will be added to the Register of Certified Ergonomists.

(3) Applications, complementary documents and any notes from the evaluation process are stored by the ESSA-PAB throughout the time a valid certification is held, and thereafter, or following an unsuccessful application, for a duration of five years.

(4) Any applicant is entitled to request, and receive, within 30 days, a copy of all information recorded under their name in the Register of Certified Ergonomists and in any other ESSA-PAB documents. The enquirer will be charged for the costs of copying and mailing.

II.5.5 Re-application process

Regardless of the reason for re-application a waiting period of 3 months is required before the applicant will be considered for re-verification. A new application form must be completed and the respective fees must be enclosed.

II.5.6 Appeal mechanism

In the case of rejection, the applicant may submit an appeal to the Professional Affairs Board or ESSA council by stating the case in writing within one month after the decision was posted. If the appeal was directed to the ESSA council the Professional Affairs Board submits its recommendation to the ESSA council, accompanied by a full justification for that recommendation within one month of receipt of the appeal. The ESSA council is in its decision bound to the certification policy. This decision will be final.

II.6 Termination

II.6.1 A person ceases to be a Certified Ergonomist (CEA or CPE) if they:

a) Resign

b) Fail to renew certification in due time

c) Are expelled from the Certified Professional Ergonomist grade by the ESSA council on recommendation of the Professional Affairs Board.

II.6.2 Those losing or relinquishing their status as a Certified Professional Ergonomist

a) Must no longer claim in any way to be a Certified Professional Ergonomist, either verbally or in writing.

b) Will have their names removed from the Register of Certified Professional Ergonomists.

II.6.3 Re-certification

If a former Certified Professional Ergonomist ceases to be one because of resignation or missed renewal, that person may re-apply for admission in accordance with the Certified Professional Ergonomist Certification Requirements.

II.7 Breach of Code of Practice

II.7.1 Should any evidence or complaint be brought to the attention of the ESSA indicating that a Certified Ergonomist (CEA or CPE) has breached the Code of Practice, then that evidence or complaint shall go before the Professional Affairs Board for investigation and review.

II.7.2 On receiving such a request, the Professional Affairs Board shall:

a) Assign the investigation to one of its members who will form an investigation panel with at least two members of the Professional Affairs Board nominated by the convenor. This shall be performed within one month of receipt of the complaint or evidence.

b) Notify the Professional Ergonomist of the request to investigate the complaint; and the membership of the investigation panel.

c) Request the Professional Ergonomist to explain her/his view in writing or in form of a personal representation to the Professional Affairs Board.

d) For each complaint, the nominated investigation panel will conduct the investigation. The results of the investigation will be forwarded to the Professional Affairs Board for their review and recommendation.

II.7.3 After investigation, should any such breach be deemed to have occurred, the Professional Affairs Board may recommend suspension or termination of grading as a Professional Ergonomist to the ESSA council, which may further consider exclusion from ESSA membership.

II.7.4 Appeal mechanism
In the case of suspension or termination of the accreditation as a Professional Ergonomist an appeal may be submitted to the Professional Affairs Board or to ESSA council by stating the case in writing within one month after the decision was posted. If the appeal was directed to the ESSA council the Professional Affairs Board submits its recommendation to the ESSA council, accompanied by a full justification for that recommendation within one month of receipt of the appeal. The ESSA council is in its decision bound to the Code of Practice policy. This decision will be final.

II.8 Changes to these rules

II.8.1. Changes to those rules may be made by the ESSA-PAB Board after consultation with the ESSA council and current Certified Professional Ergonomists.