

# International Ergonomics Association

## Professional Standards and Education Committee

### Summary of Core Competencies in Ergonomics: Units and Elements of Competency

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#### **Unit 1. Investigates and analyses the demands for ergonomics design to ensure appropriate interaction between work, product and environment, and human needs, capabilities and limitations**

- 1.1 *Understands the theoretical bases for ergonomics planning and review.*
- 1.2 *Understands, and builds their research and applications on, existing high quality state of the art and best practice.*
- 1.3 *Applies a systems approach to analysis.*
- 1.4 *Understands the requirements for safety, the concepts of risk, risk assessment and risk management.*
- 1.5 *Understands and can cope with the diversity of factors influencing human performance and quality of life, and their inter-relationships.*
- 1.6 *Demonstrates an understanding of methods of measurement and interpretation relevant to ergonomics appraisal and design.*
- 1.7 *Recognises the extent and limitations to their own professional competence*

#### **Unit 2. Analyses and interprets findings of ergonomics investigations**

- 2.1 *Evaluates products or work situations in relation to expectations for safe, satisfying and effective performance.*
- 2.2 *Appreciates the effect of factors influencing attitudes, health and human performance.*
- 2.3 *Analyses and interprets research data accurately and without bias, consulting appropriately where required.*
- 2.4 *Understands relevant current theory, guidelines, standards and legislation.*
- 2.5 *Makes and can justify decisions regarding relevant criteria which would influence a new design or a solution to a specified problem.*

#### **Unit 3. Documents ergonomics findings appropriately.**

- 3.1 *Provides a succinct report in terms understandable by the client and appropriate to the project or problem.*
- 3.2 *Communicates clearly and effectively with clients, other stakeholders (including the relevant work force) if possible, and the general public and scientific community if feasible.*

**Unit 4. Determines the compatibility of human capabilities with planned or existing demands.**

- 4.1 *Appreciates the extent of human variability influencing design.*
- 4.2 *Determines the quality of match and the interaction between a person's characteristics, abilities, capacities and motivation, and the organisation, the planned or existing environment, the products used, equipment, work systems, machines and tasks.*
- 4.3 *Identifies potential or existing high risk areas and high risk tasks, where risk is to health and safety of the individual completing the task or to any others affected.*
- 4.4 *Determines whether the source of a problem is amenable to ergonomics intervention.*
- 4.5 *Justifies decisions on ergonomics interventions or implementations.*

**Unit 5. Develops a plan for ergonomics design or intervention**

- 5.1 *Adopts a holistic view of ergonomics.*
- 5.2 *Incorporates approaches which would improve quality of life as well as performance.*
- 5.3 *Develops strategies to introduce a new design*
- 5.4 *Considers alternatives for improvement of the match between the person and the product, the task or the environment.*
- 5.5 *Develops a balanced plan for risk control, with understanding of prioritisation and costs and benefits involved.*
- 5.6 *Communicates effectively with the client, any stakeholders, the public and professional colleagues.*

**Unit 6. Makes appropriate recommendations for ergonomics changes**

- 6.1 *Makes and justifies appropriate recommendations for design-based changes*
- 6.2 *Makes and justifies appropriate recommendations for organisational planning-based changes*
- 6.3 *Makes and justifies appropriate recommendations for personnel selection, education and training*

**Unit 7. Implements recommendations to improve human performance**

- 7.1 *Relates effectively to clients and all stakeholders, at all levels of personnel.*
- 7.2 *Supervises the application of any ergonomics plan.*
- 7.3 *Implements and manages change effectively and sympathetically*

**Unit 8. Evaluates outcome of implementing ergonomics recommendations**

- 8.1 *Monitors effectively the results of ergonomics change implementation*
- 8.2 *Carries out evaluative research relevant to ergonomics*
- 8.3 *Makes sound judgements on the quality and effectiveness of ergonomics change implementation*
- 8.4 *Modifies a design or program in accordance with the results of evaluation, where necessary.*
- 8.5 *Understands the principles of cost-benefit analysis for any ergonomics change.*

## **Unit 9. Demonstrates professional behaviour**

- 9.1 *Shows a commitment to ethical practice and high standards of performance and acts in accordance with legal requirement, in all laboratory research, field research, practical application and any related activities.*
- 9.2 *Recognises personal and professional strengths and limitations and acknowledges the abilities of others.*
- 9.3 *Maintains up -to- date knowledge of scientific state of the art and national strategies, relevant to ergonomics practice.*
- 9.4 *Places their theories, methods, findings and interpretations into the scientific and public forum whenever possible.*
- 9.5 *Recognises the impact of ergonomics on people's lives.*

