

List of Competencies for Competency Assessment

The following section describes the competencies categorised regarding comprehensive understanding of human, approaches and methods, transverse core competencies and aviation-specific competencies, as are required for different areas of practice (AoP).

In each description, the following notations are included: **M = Mandatory**, **R = Recommended**, **N/A = Not Applicable**. These indicate whether the competencies are mandatory, recommended or not applicable to AVPSY or AVHFS considering accreditation.

1. Global Aviation-System/ Domain Knowledge

#	Title	Short Description	Knowledge	Skills	Attitudes
1.1	Aviation Operator tasks and working environments, operational principles, technologies & future evolutions	Acquisition of suitable aviation-specific knowledge and overview of the entire aviation system, for example: Airline and airport operations, flight and airborne systems, ATC, aviation engineering, ground handling, military operations... AVPSY: M AVHFS: M	<ul style="list-style-type: none"> • Know principles of operator's activities, positions, and peculiarities, (jobs, vocabulary, task demands) • Know characteristics of operator profiles (e.g., pilot education principles, responsibility for safety, stay vigilant all time, resilience etc.), the motivation, character, and aptitude of applicants • Know of the relevant documentation used in operations • Know key concepts in aeronautical systems • Knowledge of the function and operation / effect of technical systems, their operational use in the operational environment of pilots, air traffic controllers, by engineers etc. • Knowledge and understanding of the physical, organisational, technical, and operational aspects in aviation (e.g., how do aircraft and flight function, how do ATC/ATM organisation's function, maintenance, ground handling...) • Basic understanding of aircraft engineering, • Basic understanding on survival equipment on aircraft • Understanding of Air Traffic Control role in air safety and traffic efficiency • Basic understanding of engineering documents, aviation technical specification, aviation training documentations, aviation procedures for normal and non-normal situations, ... 	<ul style="list-style-type: none"> • Technical understanding • Human-system / human-automation understanding • Keep in mind the future evolution of operators and the operator environment 	<ul style="list-style-type: none"> • Openness and interest in new developments • Be motivated to immerse and/or train in the aeronautical world • Consider the moral sense of safety

#	Title	Short Description	Knowledge	Skills	Attitudes
1.2	Knowledge about relevant Aviation regulation, rules of application, standards, and recommended practices	<p>This includes a thorough knowledge of current and updated regulations as published by international and national authorities (ICAO, EASA/EC/EU, CAA, FAA) including rules of application, standards (e.g., aircraft certification standards) and recommended (best) practices and guidance material and acceptable means of compliance as published by industry bodies such as IATA, EUROCONTROL, IFATCA, IFALPA etc., that govern the fields of application of APSY and AHFS</p> <p>AVPSY: M (AoP) AVHFS: M (AoP)</p>	<ul style="list-style-type: none"> Broad understanding of the regulatory and organisational framework at international (ICAO), European (EU law, EASA) and national level of civil aviation including regulatory functions (EASA, NSAs) Understanding the rulemaking structures and procedures in force at various levels Thorough understanding of the differences between binding regulation, implementing rules, applicable standards, and norms, recommended practices, means of compliance and non-binding guidance material Specific knowledge about mandatory (legislative) operational requirements relevant for aviation personnel and aviation safety including operational licensing, medical requirements, training etc. Knowledge on where to find related acceptable means of compliance (AMC), guidance material (GM), Standards and Recommended Practices (SARPs). 	<ul style="list-style-type: none"> Locating and sharing regulatory requirements relevant and applicable for the area of practice (e.g., Part-ARO, Part-MED) Identifying and applying best practices, norms, standards in your area of practice Complying with/ encouraging compliance with relevant regulatory requirements Promoting reasons for rules and regulations (why it makes sense to follow the rules with a light on aviation safety) 	<ul style="list-style-type: none"> Commitment to respect and comply with applicable legal requirements Follow a rule- and standards-oriented approach in development of working procedures Attitude towards improving the way in which rules and regulations are reasonably applied in practice - identifying gaps or inconsistencies in rules and standards Avoid/ discourage complacency and blind rule following; strive towards understanding the reasons behind the rule and why it makes sense to follow
1.3	Understanding Aviation language (terminology)	<p>Understanding the colloquial language (terminology, abbreviations etc.) of people that AVPSY and AVHFS work with is essential to optimizing human performance and safety. Learning the aviation technical language (incl. ATM, Maintenance and Operations) is highly recommended to all AVPSY & AVHFS.</p> <p>AVPSY: M (AoP) AVHFS: M (AoP)</p>	<ul style="list-style-type: none"> Knowing the main elements of the aeronautical communication (ICAO phonetic alphabet and numbers, morse code, light signals, military interception signalling, and standard phraseology) Knowing aviation technical terms including ICAO airport codes, Aviation call-signs, main aircraft types and manufacturers and their nicknames (e.g., B747=jumbo, British Airways=Speedbird) will demonstrate competence, increase trust of aviation clients, and reduce misunderstandings Basic knowledge in aerodynamics and aircraft design, being able to name parts of the aircraft, functioning of systems etc. Basic knowledge of the operational procedures applicable to the area of practice and their relevant specialized language and terms. 	<ul style="list-style-type: none"> Using the ICAO phonetic alphabet (alpha, bravo, charly) and numbers (zero, one, two, tri, niner etc.) (in communications with pilots and other aviation personnel) Being able to understand standard phraseology, ideally having completed a radiotelephony certificate Being able to speak and understand aviation technical terms (e.g., Aviation call-signs, aircraft nicknames, ICAO airport designators, runway directions, compass rose etc.) Able to explain psychology/HF terms in easy language so operational staff can understand (e.g., airmanship, groupthink etc.) 	<ul style="list-style-type: none"> Open to continuous learning, being assertive, when in doubt Being able to explain technical terms in aviation psychology and HF in a language operational staff can understand Generating trust by speaking operational language, so aviation personnel open and addresses issues

2. Knowledge about Humans*

#	Title	Short Description	Knowledge	Skills	Attitudes
2.1	Basic education in psychology	<p>Manage the application of knowledge, skills and attitudes based on psychology to ensure a positive impact on safety, quality, efficiency, health and security, and balancing individual and other stakeholders' interests.</p> <p>AVPSY: M AVHFS: N/A</p>	<p>Five years of university study in Psychology including the following scopes:</p> <ul style="list-style-type: none"> • General psychology, • Neuropsychology • Psychobiology, • Cognitive psychology, • Differential psychology, • Social psychology, • Developmental psychology, • Personality psychology, • Work and organisational psychology (AoP), • Clinical & Health psychology (especially AVPSY Clinical AoP), • Psychopathology (especially AVPSY Clinical AoP) <p>Professional roles may be described as: Clinical or Industrial / Occupational Psychologist, Company Psychologist or Performance Psychologist, Human Factors Specialist/Lead, Human Performance Specialist, Human Systems Engineer, Researcher, Investigator,– These roles may work for a range of organisations such as operators, service providers (ATC), regulators or manufacturers, or may be self-employed.</p>	<p>As defined by EuroPsy. Lunt, I., Peiro, J. M., Poortinga, Y., & Roe, R. A. (2015). EuroPsy: Standards and Quality in Education for Psychologists. <i>Hogrefe</i></p>	<p>Seek continuous professional development in their field of expertise.</p> <p>Be open to the methods and terms used by other disciplines involved in work within the aviation system.</p>
2.2	Basic education in a subject aligned to HF including a post-graduate qualification	<p>Manage the application of knowledge, skills and attitudes based on a human factors-related discipline to ensure a positive impact on safety, quality, efficiency, health, and security; and balancing individual and other stakeholders' interests.</p> <p><u>Note:</u> Psychology is often considered to be part of the HF discipline, for the purposes of EAAP competency evaluation it is treated as a separate field to allow for the two endorsements to be defined.</p> <p>AVPSY: N/A AVHFS: M (AoP)</p>	<p>At least a postgraduate degree in an aligned field (For example: Engineering, Physiology, General Human factors or Safety, Medical sciences, or profession specific training such as nursing, physiotherapy, safety management), or professional training alongside a post-graduate degree (e.g., an ATPL and master's degree in HF).</p> <p>Other degrees may be considered on review by the board.</p>	<p>As defined by HF discipline</p>	<p>Seek continuous professional development in their field of expertise.</p> <p>Be open to the methods and terms used by other disciplines involved in work within the aviation system.</p>

#	Title	Short Description	Knowledge	Skills	Attitudes
2.3	Psychology of Individual Behaviour	<p>Manage the application of principles of human behaviour to enhance the performance of individuals based on physical or psychological influences while ensuring a balance between humans, tasks, systems, and organisations is maintained.</p> <p>AVPSY: M AVHFS: R (AoP)</p>	<p>Be familiar with the following principles and concepts:</p> <ul style="list-style-type: none"> • Individual Human performance: the role and interaction of cognition, motivation, errors, stressors, fatigue, emergency preparedness • Performance of the visual, auditory, tactile & haptic sensory system; and vestibular senses • Cognitive functions & cognition: attention / vigilance, perception, information processing, memory • Decision making & macro cognition: situation awareness, problem solving, planning, scheduling • Personality • Psychometrics: psychological measurement and testing • Motivation, volition & action • Human learning and training • Emotion and emotional regulation • (Mental) Workload & stress 	<ul style="list-style-type: none"> • Effectively apply the principles and concepts from the knowledge section (left) to specific areas of practice. • Explain how individual differences and dynamics arise, and how to manage them. • Identify the client and their context, and what actions, interventions or treatment will be most effective for them. • Identify systemic HF issues within an organisation, and raise awareness about their impact on individuals, and how to manage the issues. • Deal with the specific cognitive, emotional, and motivational demands of operators on individuals. 	Refer to "Common Supporting Core Skills and Attitudes"
2.4	Psychology of Group and Organisational behaviour	<p>Manage the application of principles of human behaviour to enhance the performance of individuals in groups based on physical or psychological influences while ensuring a balance between humans, tasks, systems, and organisations is maintained.</p> <p>AVPSY: M AVHFS: R (AoP)</p>	<p>Be familiar with the following principles and concepts:</p> <ul style="list-style-type: none"> • The origins, features, and impact of human behaviour in groups and teams. • Organisational development, structure, design, and influence on people. • The dynamics of different types of groups (organisations, societal, working associations, ...) • Understand how the organisation and management attitudes, aptitudes and constraints affect group dynamics. • Understand the impact of both environmental and specific characteristics of an organisation on group dynamics. 	<ul style="list-style-type: none"> • Identify and work with group phenomenon in organisations. • Manage the impact of group behaviour. • Apply an understanding of group behaviour to organisational activities within aviation. 	Refer to "Common Supporting Core Skills and Attitudes"
2.5	Mental Health & Wellbeing	<p>Manage the application of knowledge on mental wellbeing and mental disorders to prevent/ help/ treat /support individuals and groups regarding mental health.</p> <p>Practice is based on clinical psychodiagnostics and detection of problems, while balancing the protection of the individual's needs and rights and system or organisation's needs. Promoting aviation safety remains a central goal with any psychology intervention.</p> <p>AVPSY: M AVHFS: R (AoP)</p>	<ul style="list-style-type: none"> • Understanding the signs and symptoms of common mental health disorders or distress. • Differentiation between psychological wellbeing and psychological disorders (Only AVPSY) • International Classification of Diseases (ICD - 11) by WHO and Diagnostic and Statistical Manual of Mental Disorders (DSM-5) by APA (Only AVPSY Clin AoP) • Concepts of psychological instruments for differential psychodiagnostics (Only AVPSY) • Concepts of psychopathology (AoP) 	<ul style="list-style-type: none"> • Conceptualising and conducting education/projects to raise the awareness of mental wellbeing in aviation, with special emphasis on well-being, dealing with stressors and fatigue. • Teamwork and cooperation: being part of aeromedical teams/ institutions/ organizations/ associations where AVPSY can work on the implementation of clinical psychology part in documentation/rules and regulations, with the final aim of contribution to aviation safety. 	Refer to "Common Supporting Core Skills and Attitudes"

#	Title	Short Description	Knowledge	Skills	Attitudes
			<ul style="list-style-type: none"> • Recognising the difference between psychology and psychiatry, and the value of the two roles working together. • Potential impact of unresolved psychological issues / disorders on aviation safety and security • Principles/ concepts of stress (anxiety and pressure) • Concepts / principles of fatigue and burnout. 	<ul style="list-style-type: none"> • Application of psychological instruments for differential psychodiagnostics, interpretation of the results in accordance with ICD or DSM standards and acting according to the proposed aeromedical regulations. • Close professional cooperation and communication with AMEs. 	
2.6	Human Physiology	<p>Manage the application of knowledge on human physiology to enhance performance and well-being while ensuring a balance between humans, tasks, systems, and organisations is maintained.</p> <p>AVPSY: R (AoP) AVHFS: M (AoP)</p>	<ul style="list-style-type: none"> • Knowledge of physical characteristics such as metabolism, muscle, circulatory and respiratory system, nervous system, vision, hearing, physical stress, sleep, and body rhythms (AVHFS) • Anthropometric, biomechanics, work physiology (AVHFS) • Knowledge on effects of sound / noise, vibration, temperature and humidity, illumination, contrast and colour, atmosphere on human performance (AVHFS) • Knowledge on workstation design: displays, controls / input devices, human-computer / human-automation interaction (AVHFS) • Knowledge on neurophysiology and principles of design 	<ul style="list-style-type: none"> • Awareness of the impact of physiology on human performance in an aviation context • Providing advice to mitigate/ anticipate the effect of the aviation and organisational environment on individuals and their performance, based on best practices, scientific literature, and relevant regulations 	Refer to "Common Supporting Core Skills and Attitudes"

***Additional information for understanding the human**

Visual sensory system: Vis. Environment, reception, anatomy, processing, performance aspects: Colour, light, optics, acuity, contrast, night vision, sensory/cognitive processing, and performance (depth / spatial perception, visual search, detection, discrimination), influence on cognitive performance and emotion, individual differences

Auditory sensory system: Amplitude, frequency intensity, loudness, pitch, sensory/cognitive processing, and performance (detection/localisation, speech recognition, noise impacts, masking..., individual differences) (HF/AP)

Vestibular senses: Functions/ principles/concepts – (for aircrew, space environment, individual differences)

Principles/ concepts of cognitive functions & cognition: attention/selective/divided attention, mental workload, task sharing, perception, working memory, long-term memory (limits, implications for design of workplace)

Principles/concepts of Decision Making: Types of decisions, situation awareness, planning bias in DM, Situational Awareness, measuring, avoiding/mitigating human bias, problem solving (principles, troubleshooting, human error), planning

Concepts / principles of fatigue: vigilance, arousal, sleep disruption, deprivation, circadian rhythm; understand impact of fatigue for aviation operators (shift work), tools to manage fatigue at work (FRMS)

Principles/concepts of Motivation: alienation from the job - people at a certain time in their career seem to 'drift away' from the centre of their industry and organisation.

Losing the dedication to the job and the motivation required to sustain and stay focused.

Concepts / principles of Stress: Types of stressors (environmental, psychological, life-stress, workload induces stress), impacts of stress on performance (mental, physical, short-long-term impacts...), stress measurement (physiological measures, other), stress re-mediation, physical / mental stress alleviation)

Concepts / principles of Workload: task load, timeline, overload, (mental) workload measurement, re-mediation and avoidance, human and performance impacts

Concepts/principles on teams and groups: Social psychology of groups; behaviour, crew/team performance, communication, decision making

Group/Crew/Team oriented training & development: communication, teamwork, trust, team coordination/collaboration, training / interventions methods - TRM/CRM/coaching, conflict mediation

Human-Machine Interface: Technical and operational aspects including people issues to better understand what operators face

Human adaptability to change: Shift roster / schedule changes, airspace changes, procedural changes, changes in the Controller Working Environment / working position, management changes.

Clinical-psychological questions/mental health & wellbeing: Concepts of behaviour, appearance, communication, speech, mood, thinking, perception, sleep, cognition, thought process, thought content, judgment, significant life events and insight.

Verbal / non-verbal. Deficit / disease /disorder (Neurotic, stress-related or somatoform disorder; Psychotic disorder; Organic mental disorder; Schizophrenia, schizotypal or delusional disorder; Abuse of psychotropic substances; Mood disorder; Personality or behavioural disorder; depression, anxiety, panic attack, insomnia, etc.), psychological conditions, patient/client, clinical report. AME/psychiatrist, aeromedical team, to self-report, to report, (privilege of) licence, sick leave, fit - unfit, suspension, release, semi-annual / annual aeromedical examinations, qualifying and disqualifying, requirements, prevention, confidentiality, communication, medical documentations, regulators and regulations - medical parts, diagnosis, treatment plan, hospitalization, counselling, psychotherapy, International Classification of Diseases (ICD - 11) by WHO, Diagnostic and Statistical Manual of Mental Disorders (DSM-5) by APA, medications (e.g. antidepressants), risk assessment, support, help, cure, safety, health, Critical Incident Stress Management (CISM), Class 1 and class 2 medical certification. AP and peer supporters based on relevant training)

3. Methodological Approaches & Tools

#	Title	Short Description	Knowledge	Skills	Attitudes
3.1	Human in System/ overarching methods	Identify, decide, design, explain and implement the most adequate methodological approach to achieve the expected objectives AVPSY: M AVHFS: M (AoP)	<ul style="list-style-type: none"> • Solid methodological background and knowledge on qualitative, quantitative research method, research design, sampling, measurement, data collection, evaluation, and analysis • * Extensive knowledge of relevant literature and evolution of the methodology of the discipline 	<ul style="list-style-type: none"> • Form and implement a strategic or technical approach • Select a practical approach and understand how to apply the knowledge in company • Search AVPSY/AVHFS competences depending on the type of studies • Speak an operational and systems language and tie own language in the middle • Oversee HF input into design / procedural changes for the organisation 	<ul style="list-style-type: none"> • Be open and take the problem larger than only on psychology (for example psycholinguistics)
3.2	Validation/ Measurement	Identify, decide, design, explain and apply adequate methods, tools, and measurements AVPSY: M AVHFS: M	<p>Knowledge on methods, tools & measurements such as</p> <ul style="list-style-type: none"> • System evaluation methods (heuristics, cognitive walkthrough, usability testing, in-service-evaluation), • Study design (sampling, one factor, multiple factors, within / between subjects, mixed...); depending on validation-phase (exploration, verification, validation) - measurement & data analysis, statistical / logical conclusion (statistical / practical significance), type I / II error, communicating results) (HF) • Root cause analysis, Timeline analysis, Task analysis * Job analysis • * Knowledge of sequential accident models, epidemiological models and system accident models, risk, and hazard models 	<ul style="list-style-type: none"> • Identify suitable tools depending on the design phase, scope, and requirements (e.g., regulatory, temporal demand) of an expected study 	<ul style="list-style-type: none"> • Maintain a curious and sceptical attitude to methods, tools, and measurement. • Continue to investigate the science around new methods and continue to consider existing methods critically to promote continuous improvement.
3.3	Observation & Interviews	Ability to gather information by interviewing and observations in clinical (anamnesis), and industrial settings AVPSY: M AVHFS: R	<ul style="list-style-type: none"> • Principles, role and scope of the interviewer, the interview and observations for different questions and contexts (clinical vs. actuarial prediction, simulations, selection / intake interview, in work settings, such as operations, and in research studies) • Influences and biases in interviewing and observation 	<ul style="list-style-type: none"> • Adapt depending on question and context • Apply and demonstrate the knowledge on conducting the interviews and observations • Focus on details (key verbal and non-verbal) • Ability to observe • Ability to differentiate routine vs non-routine /critical situations • Ability to follow and lead the flow of the assessment towards the key information 	<ul style="list-style-type: none"> • Ethical behaviour • Empathy • Structure of the work • Being flexible and open-minded • Synthesize the information • Strong focus on details • Attention • Being professional, strong borders

#	Title	Short Description	Knowledge	Skills	Attitudes
			* Reliability and validity of interviews; information processing; combining document analysis and interview	<ul style="list-style-type: none"> • Ability to create pleasant atmosphere with the aim to raise the spontaneous responses and behaviour • Comparison: congruent or incongruent information • Ability to transcribe interviews • Ability to analyse interviews (qualitative and quantitative content analysis) • Ability to speak the language of the interviewee (e.g., pilot, ATCO, cabin crew) • Ability to perform post-observational interviews / debriefing • Synthesize collected data • Produce the report 	<ul style="list-style-type: none"> • Critical thinking and the ability to analyse the information, select and differentiate the important from non-important information • Being mentally present and self-aware
3.4	Study Design/Experimental / laboratory studies	Ability to conduct adequate experimental studies AVPSY: M AVHFS: M (AoP)	<ul style="list-style-type: none"> • Know which experimental designs exist (field study vs. laboratory experiment., independent/dependent/control variables, univariate versus multivariate, factorial design, designs for small sample sizes, random assignment) • Knowledge of measurement statistics, statistical vs. practical significance, measurement error, generalisation, prediction & error) 	<ul style="list-style-type: none"> • Design a protocol that allows a thorough conclusion • Interpret outputs • Recognise when experimental design is adequate • Prepare, conduct, analyse and report of experimentations (e.g., real-time simulations in ATC, cockpit, air/ground coupled evaluations) • Laying out the validation strategy, the validation plan, and the final validation report 	<ul style="list-style-type: none"> • Maintain a scientific mindset and curiosity about study design • Critical thinking
3.5	Job and Task Analysis	Including defining a job domain/ role, job descriptions and advertisements, creating performance appraisals, breakdown of a complex task into component tasks to identify different knowledge, skills and attitudes needed. Commons methods include Hierarchical task analysis, job demand surveys, cognitive/item tasks analysis, task inventories. For details on job analysis for air traffic control please refer to a recent review paper (Wium & Eaglestone, 2022) AVPSY: M (AoP) AVHFS: M (AoP)	<ul style="list-style-type: none"> • Knowing history of job analysis and main findings for aviation personnel (e.g., civil vs. military ATCOs, pilots, engineers etc.) • Knowing commonly used job and task analysis methods in Aviation (Fleishman Job Analysis Survey, Critical Incident Stress Technique, cognitive task analysis, role modelling etc.) 	<ul style="list-style-type: none"> • Being able to conduct a high-quality job and task analysis using scientific methods and validated instruments • Being able to draw conclusions and interpreting results in the context of relevant norms • Being able to select the most efficient methods depending on project objectives (design, training development, etc.) • Understanding how a hierarchical or cognitive task analysis could be used to support a learning development plan, training plan, or change management plan or work! 	<ul style="list-style-type: none"> • Complying with scientific standards in conducting job and task analysis

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3.6	Statistics/ Data Analysis/ Modelling	Application of adequate statistical studies AVPSY: M AVHFS: R (AoP)	<ul style="list-style-type: none"> Quantitative vs. qualitative data analysis Univariate vs. multivariate statistics Working knowledge of packages like SPSS; statistical analysis; know adequate methods for dealing with small sample size vs large surveys and "big data" Understand difference between exploratory analysis and data fishing Recognise when statistical method is adequate or not depending on the experimental design Understand principle of significance and statistical/logical conclusion 	<ul style="list-style-type: none"> Apply statistically correct analysis depending on data and method 	<ul style="list-style-type: none"> Keep in mind the need to understand humans when dealing with statistics Critical thinking: realise when statistics is wrong, or wrong supply is used for the data Data-mindedness (a lot of people choose psycho because it is philosophical and they don't like to treat data; physio is not the same, they are more used to data; we need more people who are data-minded)
3.7	Training	Application of educational activities aiming to enhance the knowledge, skills, behaviour, and attitude of aviation personnel to (better) perform specific tasks AVPSY: R (AoP) AVHFS: R (AoP)	<ul style="list-style-type: none"> Understanding and knowledge on adult learning and instruction methodology / methods, process Understand impact of motivation, reflection, mental models, and emotions on learning Knowledge of applying HF principles in aviation as a key factor for individual / group/team performance Understand transfer of knowledge into practice Understanding effective facilitation and an awareness of common group dynamics which may alter group performance. 	<ul style="list-style-type: none"> Design / develop training / instruction modules Implement and conduct training Perform training evaluation Develop and apply presentation and instruction skills 	<ul style="list-style-type: none"> Being empathetic / have a desire to support trainees to perform Being clear in expression Being structured and demonstrating professionalism Being flexible and adaptable to trainee level of knowledge / understanding

Other methodological Approaches & Tools

#	Title	Short Description	Knowledge	Skills	Attitudes
3.8	Psychometrics & tool development	<p>Application of specific methodologies and processes of developing new, valid, and reliable tests and measures of performance, attitudes, skills, or abilities and or to improve existing ones for objective, fair and effective selection, or placement of people to specific jobs and tasks</p> <p>AVPSY: M AVHFS: N/A</p>	<ul style="list-style-type: none"> • Understanding human capabilities and behaviour; and how to assess and measure them • Understand job and task requirements on human cognitive / physical / emotional factors • Knowledge of qualitative / quantitative methods and measurement • Knowledge of methods for item and test / scale design, development, validation • Knowledge of advanced statistical analysis • Knowledge of systematic bias(es) • Understanding of concepts and methods ensuring reliability, validity and objectivity in psychometrics and tools development 	<ul style="list-style-type: none"> • Perform job analysis • Develop, test, and select items/ scales • Conduct test trials, perform statistical analysis to provide statistical evidence for reliability and validity of test scores • Apply correct methods to establish evidence for criterion (job) performance validity • Demonstrate practical benefit of using developed solution 	<ul style="list-style-type: none"> • Being research-minded • Being systematic and paying attention to detail • Develop creative solutions • Protect-against-systematic bias(es) in selection • Use professional judgment when evaluating data • Take account of psychometric and practical considerations • Working across disciplines
3.9	Individual Diagnosis & Treatment	<p>Application of specific diagnostic knowledge and skills, counselling/therapeutic knowledge, theories, and techniques to support and help the individual in need</p> <p>AVPSY: M (AoP) AVHFS: N/A</p>	<ul style="list-style-type: none"> • Knowledge of the principles of managing clinical diagnosis: setting, clinical interview, clinical tests. • Knowledge of qualitative and quantitative data interpretation. • Comprehensive knowledge and understanding of the concepts of psychological instruments for differential psychodiagnostics. • Comprehensive knowledge of International Classification of Diseases (ICD - 11) by WHO and Diagnostic and Statistical Manual of Mental Disorders (DSM-5) by APA. • Knowledge of treatment procedures. Knowledge of psychotherapeutic approach (e.g., psychoanalysis, cognitive-behaviour, transaction analysis, systemic approach, etc.) 	<ul style="list-style-type: none"> • Demonstration of the knowledge through the application of tests and conducting clinical interview. • Critical thinking. • Focus on details. • Analysis of collected data; Make a conclusion and write a report • Communication skills - with the patient/client and AME (psychiatrist); 	<ul style="list-style-type: none"> • Ethical behaviour • Empathy • Synthesize the information and make a treatment prediction and progress

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3.10	Clinical Support to peer-support	Application of specific diagnostic knowledge and skills, counselling/therapeutic knowledge, theories, and techniques to support and help the individual in need. AVPSY: R (AoP) AVHFS: N/A	Difference: Clinical Support conducted by Clinical AP (CAP) vs Peer-support conducted by trained peer. CAP: <ul style="list-style-type: none"> Knows principles of clinical psycho-diagnosical assessment (clinical interview, clinical observations, battery of tests) and psychotherapeutic support. Tight collaboration (liaison) with AME and/or psychiatrist. Peer Support: (trained to provide support in crisis): <ul style="list-style-type: none"> Knowledge of the most common psychological issues among aircrew Knowledge of the psychologist and psychiatrist jobs and their differences Knowledge of the intervention in crisis; knowledge of the structure of peer support call. 	CAP: <ul style="list-style-type: none"> Demonstrates the application of clinical psycho-diagnostic assessment and integration of the results. Decision making and plan of the treatment: further psychiatric interventions, diagnosis, psychotherapy/counselling/developmental support. Peer-support: <ul style="list-style-type: none"> Demonstrates basic listening and counselling skills Demonstrates the structure of the talk/call; application of the interventions in crisis, awareness, and the application of setting the boundaries. 	<ul style="list-style-type: none"> Being empathic. Being open-minded. Being flexible and tolerant. Having no prejudices, no judgment. Being calm and patient. Attention to details. Being self-aware. Continuous path of self-analysis and self-development. Self-confident. Practice mindfulness.
3.11	Competency Assessment	Ability to identify, apply and support in practice the knowledge and effectiveness of organisations and people to accomplish organisational change and performance regarding operators' competencies AVPSY: M (AoP) AVHFS: R (AoP)	<ul style="list-style-type: none"> Know / understand methods to assess competence Understanding and knowledge of competency standards Understand the complexity of functional systems in aviation Understand critical competencies about risks, hazards, safety, and efficiency Understand the critical conditions affecting human performance in decision making and resolving situations Knowledge of systematic bias(es), reliability, validity and objectivity in development and application of assessments 	<ul style="list-style-type: none"> Analyse the job context, processes, and procedures as the basis for assessment Identify relevant cognitive/ physical / emotional requirements expressed behaviour / performance Apply professional judgement based on evidence and valid observation, data, and measurement 	<ul style="list-style-type: none"> Protect against personal bias(es) in assessment Seeking fairness in conducting assessment Being objective and applying professional judgement Checking judgement against valid evidence Being aware of sources for bias and reduced levels of objectivity Being systematic and strictly follow established best practice rules
3.12	Personnel recruitment & selection	Application of processes, practices, and tools in human resource management to acquire or retain people that best fit the demands of the tasks, jobs and the (operational) environment according to their mental (psychological) strength, behaviour, and personality to meet the operational (safety) demands, and the goals and objectives of the employing organisation.	<ul style="list-style-type: none"> Know/understand principles, methods, processes, and tools to select and recruit aviation (operational) personnel Understand psychometric quality standards Understand R&D methods of test construction and validation of selection methods Knowledge / understanding of the mental, psychological, physical, behavioural, and personality demands in the operational work environment (from job / task analysis...) 	<ul style="list-style-type: none"> Apply psychometric standards and methods in test composition for specific candidate groups Conduct selection studies and trials Apply appropriate mathematical methods to establish test scores / composites Design appropriate methods for selection decision making 	<ul style="list-style-type: none"> Seeking fairness in testing / decision making Appreciating diversity of candidates Being aware of sources for bias and reduced levels of objectivity Being systematic and strictly follow established best practice rules in testing, interviewing, and selection decision making

#	Title	Short Description	Knowledge	Skills	Attitudes
		<p>AVPSY: M (AoP) AVHFS: R (AoP)</p>	<ul style="list-style-type: none"> Understand the mathematical and statistical methods for scoring, cut-offs, composites in selection decision making and recruitment Understand selection decision making failure and principal error types 	<ul style="list-style-type: none"> Collect and store candidate test and appropriate personal data for subsequent validation studies Collect / use appropriate criterion data (training / simulator data, job performance, observation scales...) Apply appropriate data protection 	<ul style="list-style-type: none"> Follow and appreciate the technological, operational, and organisational developments in the work environment / working positions of personnel Ethical behaviour
3.13	Organisational design and development	<p>Ability to identify, apply and support in practice the knowledge and effectiveness of organisations and people to accomplish organisational change and performance regarding organisational design</p> <p>AVPSY: M AVHFS: R (AoP)</p>	<ul style="list-style-type: none"> Understanding / knowledge of principal values, structures, design, and culture of organisations and business, and operational context / environment (incl. management structures, management methods/styles, leadership) <ul style="list-style-type: none"> * Understand development of organisational, business, managerial strategy, and plan Understand the high risk / reliability context at organisational, technical, and operational (work floor) level (in aviation) Understand the social, psychological and HF aspects in individual, teamwork, and departmental performance Understand principles, methods of performance and change management Principles /concepts in organisational culture and social norms (social dialogue / representation culture, negotiation / bargaining culture, just culture and staff liability, job design/motivation, job satisfaction...) Different types of organisations / procedures in operational environment and in management; management levels, structures, and functions 	<ul style="list-style-type: none"> Apply methods in organisation design, management, leadership, personnel, performance and project management, work organisation and work schedule Conduct analysis of data / info from documents, workshops, brainstorming sessions, interviews, observations, surveys, questionnaires at organisational, group, and individual level Provide feedback and input to strategy, design, and development Develop or advise on specific methods and tools at various organisational levels Advise / apply on methods and approaches in management of change Identify weak points in company's processes and procedures; working environment; relationship among staff members. 	<ul style="list-style-type: none"> Being systematic and structured in the approach Show a clear, unbiased, and competent attitude to organisational issues Demonstrate stability and 'standing' in dealing with critical situations at all organisational levels Be knowledgeable and keep overview of processes and steps and the continuous developments at management and organisation level Be flexible and adaptable to changes * Be able / competent to shape and influence the course of developments at organisational levels

#	Title	Short Description	Knowledge	Skills	Attitudes
3.14	Design & Validation of Systems, Tasks & Operations	Ability to set-up, produce and report the application of psychological and HF knowledge in system/task/operations design and validation AVPSY: M (AoP) AVHFS: M	<ul style="list-style-type: none"> Know approaches to explore, validate and verify new ways of working and designs aligned with regulations and standards Know engineering models (V&V; Agile, Sprint) 	<ul style="list-style-type: none"> Integrate AP & HF with system engineering to ensure adequate timing and added value Make sure that the human operator is well considered for the design and use of the product, but also during the production phase Translate ideas of the designer to be compatible with human behaviour Make explicit what the human needs along the design (from the need analysis to operators or production), make diagnostics on the coupling between human and machine on the problems to address, and accompany the design until the end to evaluate how it will be assessed, based on human characteristic Validate new ways of working, new technology 	<ul style="list-style-type: none"> Devoted to technological evolutions Interested in the relationship between humans and machines and in building an equitable relationship Keep the future in mind
3.15	Human Factors in Safety Management Systems (SMS)	Application of HF risk assessments, investigations, audits, surveys, and interpret the results in a safety management context, AVPSY: R (AoP) AVHFS: R (AoP)	<ul style="list-style-type: none"> Knowledge of the integration of human factors risks in safety management systems, HF in safety audits, HF in safety investigation, normal operations safety surveys, HF risk assessments, HF safety case Understand the link between HF risk and overall safety performance 	<ul style="list-style-type: none"> Perform a HF risk assessment, Build a HF safety case, Perform a root cause analysis highlighting HF issues, Perform a HF investigation and giving HF recommendations Perform a HF audit/ normal operations safety survey 	<ul style="list-style-type: none"> Belief that the human factor is part of a larger system design, and that behaviour is influenced by the system design The human is only as good as the system in which he/she works Consider HF as most important asset in the organisation Anticipate that humans and systems are never perfect
3.16	Methods for Psychophysiological Assessment	Application of specific methodologies based on psychophysiological measures (ECG, EEG, ...) AVPSY: R (AoP) AVHFS: R (AoP)	<ul style="list-style-type: none"> Principles of psychophysiological and neurophysiological measures (ECG, EEG, etc.) Common tools for of data collection 	<ul style="list-style-type: none"> Know how to collect and analyse psychophysiological data 	<ul style="list-style-type: none"> Maintain curiosity about the scientific properties of assessment tools and their continued improvement.

#	Title	Short Description	Knowledge	Skills	Attitudes
3.17	Change & Transformation / Culture / organisational Wellbeing / Coaching	Application of measures to support transformation & change AVPSY: R (AoP) AVHFS: R (AoP)	Comprehensive understanding / knowledge and experience of: <ul style="list-style-type: none"> Processes, drivers, enablers, conditions, social / psychological /organisational impacts of (organisational / technical / operational) change Conditions, complexity and dynamics of change and transformation processes Organisational development, leadership and management culture and relation to change / transition Methodology, tools, and approaches of management of change Principles of performance management Principles of coaching and short forms of counselling 	<ul style="list-style-type: none"> Participate and contribute to strategic planning, diagnosing, and implementing change at organisation / corporate level Organise and conduct workshops, hearings, meetings, interviews etc. at various levels Diagnose / analyse/ assess / evaluate strength / weaknesses (SWOT) at various levels Apply methods and tools at individual, group organisational level (coaching, training, moderation, team-development) Participate and support social dialogue / partnership PM (Performance Management): staff assessment, internal and external evaluation Wellness: conducting short forms of counselling with the aim e.g., of overcoming performance limitations or development of tolerance (to specific lifestyle, shift work) or mediation in the conflict situations among the staff. Collected data integration, evaluation and prediction based on the best practice and literature knowledge Negotiation skills. Leadership skills. 	<ul style="list-style-type: none"> Positive attitude to change Being participative and involving Sensitive to dynamics, social, psychological factors in motivation and response (resistance / acceptance) Being communicative, cooperative, flexible, and adaptable in the approach Being visionary in finding solutions Being sociable, objective, and fair Being professional Being ethical Being open-minded Being patient and flexible
3.18	Safety Climate and Just Culture Assessment	Application of measures for (safety and just) culture in an organisation and development of a (safety and just culture) action plan to improve, measure behaviour changes as success criterion Keywords: Culture assessment / development (safety, security, just culture, organisational culture, management culture, reporting culture) AVPSY: R (AoP) AVHFS: R (AoP)	<ul style="list-style-type: none"> Knowledge about the difference between culture and climate - culture is based on underlying assumptions, values, beliefs, attitudes of operational staff at work, it is their personal reality and not the ideal world, people behave in line with their values and beliefs, it is difficult to change culture Knowledge about different cultures (safety, security, just culture, management culture, organisational culture etc) elements/ facets of a safety and just culture Understanding of safety culture as broader element of organisational culture and management commitment, Methods to assess safety and just culture 	<ul style="list-style-type: none"> Perform safety and just culture assessments Develop action plans to improve and design interventions to promote safety and just culture awareness and change attitudes, beliefs, and behaviour of operational staff 	<ul style="list-style-type: none"> Maintain curiosity about how the work on Safety Culture continues to develop, and how it can be best applied to the aviation industry.

#	Title	Short Description	Knowledge	Skills	Attitudes
			<ul style="list-style-type: none"> Knowledge about safety culture action / development plans and interventions to improve safety and just culture, link to safety culture as enabler for effective safety management 		

4. Areas of Practice (AoP)

#	Title	Short Description	Knowledge	Skills	Attitudes
4.1	Regulations & Standards	<p>Manage the application of rules and standards at the level suitable for the field of application</p> <p>AVPSY: M (AoP) AVHFS: M (AoP)</p>	<ul style="list-style-type: none"> Understand rules and regulations pertaining to assigned AP work tasks and why they exist (e.g., aeromedical, safety, operations, design, ...) Basic aviation regulation knowledge (ICAO, EASA, NAA) Know of the sources and criteria for selecting suitable / applicable standards depending on the context of use Know the key national / international and European organisations / regulatory institutions and their relevance for AP and HF Know the legal basis for applying human factors/health & safety technical information and how this is deployed in safety critical situations (i.e., during incident enforcement work) 	<ul style="list-style-type: none"> Analytical skills (e.g., identification of legal / regulatory deviations in the structures, processes, or practices of the work environment) Planning and development skill (e.g., compliance activities based on regulations & standards) Collaboration skills (collaboration with authorities/regulators if required by position or assignment (i.e., during safety audits)) 	<ul style="list-style-type: none"> Rigorousness in respecting and following regulations and standards Being analytical and systematic in diagnosing legal and regulatory aspects of the work environment
4.2	Scientific Research	<p>Manage the application of knowledge, skills and attitudes based on psychological discipline to efficiently achieve expected targets in research</p> <p>AVPSY: R (AoP) AVHFS: R (AoP)</p>	<ul style="list-style-type: none"> Know research methodologies (e.g., interview, observation, questionnaire, focus groups, literature review) Knowledge of applied research methodologies in aviation like developing and implementing research plan, selecting appropriate research design and models, data analysis and result presentation, scientific report writing Know the principles of scientific approach for psychological research and its transformation into the aviation context 	<ul style="list-style-type: none"> Skills in adapting the application of human science and research methodology to aviation Capability to face critical questions why "More research is needed" Competence in providing research / scientific facts as best answers to real world problems, whilst acknowledging that the solution may be associated with some level of uncertainty Maintain links to the research community 	<ul style="list-style-type: none"> Questioning mind-set Confidence and conviction in science and research as a basis for progress in aviation Innovative thinking

#	Title	Short Description	Knowledge	Skills	Attitudes
			<ul style="list-style-type: none"> Understand the organisational context of research projects (e.g., contract based, limited degrees of freedom, organisational strategies impacting individual research possibilities) Know where to find relevant research outputs & literature sources 	<ul style="list-style-type: none"> Keep updated on current research trends to apply evidence-based practices 	
4.3	Design and Evaluation of systems, technologies, jobs, and/or organisational structures	Depending on the AoP, the application of competencies on two. Human, 3. Method & Approaches and 5. Common Supporting Core Skills and Attitudes is adapted			
4.4	Individual/Group/Organisational Behaviour and working environments (incl. CRM/TRM/MRM, organisational, impact of stressors, social and behavioural psychological principles, influence on culture)				
4.5	Management of Change & Transformation / Culture / organisational Wellbeing / Coaching				
4.6	Human Performance & Safety: risk assessment, incident & accident investigation, human error, safety management,				
4.7	Workforce Management: recruitment, selection, training design, Competency Assessment & evaluation, leadership & management influence,				
4.8	Influencing human performance and reliability physiological and psychological features, sensory and cognitive functions including decision making				

5. Common Supporting Core Skills and Attitudes

#	Title	Short Description	Knowledge	Skills	Attitudes
5.1	Communication	Effective verbal and written communication AVPSY: M AVHFS: M	<ul style="list-style-type: none"> Understand the need of adapting communication to the level and role of interlocutor. Understand existing communication models and styles Understand the facilitation value in communication and persuasion. Knowledge of concise and precise factual report writing 	<ul style="list-style-type: none"> Awareness of the impact of communication on different interlocutors. Apply facilitation and moderation techniques Apply active / emphatic listening Concise, precise, and articulate speaking Presentation, persuasion, and negotiation skills 	<ul style="list-style-type: none"> Self-confidence Openness and attention
5.2	Reflection, Evolution & Openness	Reflective Practice/Continuous Learning & Openness AVPSY: M AVHFS: M	<ul style="list-style-type: none"> Understand the need for reflective practice and continuous learning Understand that knowledge is not fixed over time 	<ul style="list-style-type: none"> Searching for and use of results from research and development to improve specialist's activity Implement / adopt best practice from R&D 	<ul style="list-style-type: none"> Openness to new developments Critical thinking Being knowledgeable
5.3	Systems Approach	Taking a systems approach in the practical application of work methodology to solve problems AVPSY: M AVHFS: M	<ul style="list-style-type: none"> Understand the need for a systems approach to improve system safety, (human-system) performance, individual well-being, and problems solving Appropriate formulation of problems in aviation applied sciences and development of effective strategies to resolve them * Understanding functional systems in aviation as a combination of organisation, humans and (socio-technical) components 	<ul style="list-style-type: none"> Encourage and apply a systems approach throughout any areas of practice Analytical skills * Problem-solving skills 	<ul style="list-style-type: none"> Openness to new developments Critical thinking Being knowledgeable Analytical and systematic thinking
5.4	Collaboration with other disciplines	Collaboration and links across disciplines AVPSY: M AVHFS: M	<ul style="list-style-type: none"> Understand that Human Factors and Aviation Psychology are interdisciplinary disciplines needing developing a network of trained peers 	<ul style="list-style-type: none"> Interdisciplinary collaboration Be connected in networks 	<ul style="list-style-type: none"> Cooperative Team worker mind-set

#	Title	Short Description	Knowledge	Skills	Attitudes
5.5	Business/Customer Mindset	<p>Maintaining awareness of the customers business objectives of and responsibility to individual, operational, organisational, and management considerations.</p> <p>AVPSY: M AVHFS: M</p>	<ul style="list-style-type: none"> • Knowledge of operational context in Aviation, understand the workplace of aviation staff and know the biggest risks in their workplace, know how to gain acceptance by operational staff • Knowledge of the complex human relationships, including attitudes and motivation, in socio-technical structures for an effective business outcome • Knowledge and understanding of the business, organisational and management objectives / interests of the aviation system and of the different parties involved 	<ul style="list-style-type: none"> • Organisational analytical and diagnosis • Organisation / management development • Human / organisation performance • Planning and counselling (management) • Group facilitation 	<ul style="list-style-type: none"> • System view • Balancing between individual and organisational benefits • Self-confidence • Being flexible • Focus attention to the user with the objective to provide a more usable system • Balanced sensitivity towards customers
5.6	Creativity and Curiosity in applied psychology/HF	<p>Apply psychological techniques and methods to generate creativity and curiosity in the workforce, provide examples of techniques and their advantages and pitfalls</p> <p>AVPSY: R AVHFS: R</p>	<ul style="list-style-type: none"> • Knowledge about methods/ techniques to help operational staff to understand different perspectives from different roles/ responsibilities in the organisation, know the benefits of creativity and curiosity at work/ in the workforce 	<ul style="list-style-type: none"> • Set impulses to seek new information/experiences and explore novel possibilities in the work force through applying psychological interventions and techniques • Facilitate creativity (brainstorming, going for a walk, mental training, mindfulness etc.) 	<ul style="list-style-type: none"> • Value the contribution of each staff member to the overall objective/ performance • Keeping up to date with the novelties in the field
5.7	Effectively scoping, designing and implementing psychological interventions or work activities	<p>Apply a psychological intervention for a specific issue (e.g., team-related issues, fatigued staff, underreporting) aiming to decrease or prevent operational accidents/ incidents/ errors</p> <p>AVPSY: M AVHFS: M</p>	<ul style="list-style-type: none"> • Knowledge on how to transfer results from psychological assessments into recommendations and psychological interventions, * knowledge about evidence-based interventions (collect data/ know your facts), knowledge about predicting behaviour, knowledge about pitfalls of psychological interventions (effect of the experiment, lab conditions etc.) * Know the importance of a baseline and control group in experimental design 	<ul style="list-style-type: none"> • Scope, design and implement a psychological intervention in a certain work context (e.g., cockpit, cabin, maintenance) 	<ul style="list-style-type: none"> • Consider the human condition and mindset before starting an intervention

#	Title	Short Description	Knowledge	Skills	Attitudes
5.8	Ethics and Legal/Judicial competencies	<p>Manage psychological activities based on suitable ethical principles and legal background</p> <p>AVPSY: M AVHFS: M</p>	<ul style="list-style-type: none"> Know principles of ethical standards and professionalism and understand the need for adherence to ethical standards (i.e. in aviation people can be killed by wrong applications) Have basic legal knowledge and know how psychology is anchored in the juridical system (e.g. right to refuse giving evidence, labour right) as grey zones exist, and once needs to be able to take responsibility when hiring, such as: <ul style="list-style-type: none"> Laws on liability, civil and criminal law, national and international laws Understand relevance of professional indemnity insurance Understand impact of data manipulation & plagiarism 	<ul style="list-style-type: none"> Make sure approaches are correctly used Know how to stick to one's guns to be able to represent ethical rules in organisations, as pressure may exist to produce certain results Know how to promote adherence to ethical standards 	<ul style="list-style-type: none"> Confidentiality Approachability Integrity Honesty Having ethical behaviour
5.9	Critical evaluation & analysis (evidence-based practice)	<p>Rational thinking, critical evaluation, and analysis as core skills and are used to ensure that we continue to deliver evidence-based practice and noticeable and tangible results for our stakeholders from management to operational staff. We re-evaluate and refresh these skills frequently as part of continuous professional development.</p>	<ul style="list-style-type: none"> Know that decisions should be based on the best available, current, valid, and relevant evidence. 	<ul style="list-style-type: none"> Know how to integrate best research evidence in your decisions Make decisions based on evidence including transparent line of arguments Rational and critical thinking 	<ul style="list-style-type: none"> Attitude towards evidence-based practice

Any questions related to competency-based accreditation should be sent to accreditatio@eaap.net