Example KSE submission

Below is an example of an "ideal" KSE submission. It clearly identifies the type of activity, when and where it took place, and the **relevance** of the activity towards the KSE. By providing relevance, a candidate also demonstrates **reflective thinking** regarding the activity. From the description it is fairly easy for reviewers to agree the claimed KSE hours (which follows the guidance in the Handbook pages 7-9). It also utilizes multiple categories of KSE which help demonstrate the diversity of learning and experience.

The number of KSE is above the minimum requirement of 150 KSE across the nine modules. However, the intent is to demonstrate the variety of resources that can be utilized to provide KSE.

It does not show any supporting documentation. **Supporting documentation should be added as required** either to demonstrate the claimed KSE/hours (especially if conference attendance or webinars) or to provide further information in supporting the claimed activity/KSE e.g. case log or clinical activity.

If a description of the resource used is accessible online, it is preferable to provide the hyperlink, but the description should include sufficient information for reviewers to identify the resource in case the hyperlink is changed at some point.

Good submissions will demonstrate knowledge from various aquatic species and holding or production systems. This may be difficult for some applicants either due to career pathway or geographical location.

- Where exposure is limited to mainly one species or system, candidates should identify the **transferable skills** to other species/groups. **It is much preferable**; they also spend time to **demonstrate knowledge about other species or systems** e.g. Utilizing WAVMA WebCEPD is an easy way to demonstrate this.
- Where the KSE **categories** utilized is limited, candidates should provide information as to why. This might be due to geographical location, financial reasons or CPD availability in their region. But candidates will be penalized if they simply submit a list of webinars. **You should consider how best to indicate a variety of KSE categories.**
    - The above information can be provided on a separate document which should also be approved by the Mentor. Whilst not a requirement of the certificate, this will help avoid having to edit and resubmit an application which appears to focus on one species/system or utilizes limited KSE categories.

Once the KSE form is ready for submission **please check for any errors in description or KSE category used**. The most obvious one to check is that you have listed 25 KSE in Category E. If mislabeled, reviewers will send the submission back for editing.

CertAqV Knowledge, Skills & Experience/Education (KSE) Record

Applicant **Date Submitted 11.2025**

Mentor **Date Approved 01.2026**

Comments

Instructions

The Certified Aquatic Veterinarian applicant should document the date and the source of knowledge, skills and experience/education for each KSE Module. KSEs must be at least at the level of what is expected in a veterinary curriculum that leads to a recognized veterinary degree, and should cover information unique to aquatic mammals, reptiles, amphibians, finfish, crustaceans, or molluscs. Credits are roughly equivalent hours spent obtaining a specific KSE (i.e. 1 credit = 1 hour of study or activity). The mentor or adjudicators may require a full description and documented proof of any KSE claimed.
Please provide a biography, résumé or curriculum vitae along with this application.

The following categories are acceptable sources of KSEs (these may be KSEs that are taken or developed/taught by the applicant)

A. Continuing Education and Professional Development (CEPD) classes/lectures ..... 1 hour = 1 credit
B. Academic Programs or Courses (University Level) ..... 2 class hours = 1 credit (e.g., 40 hour week = 20 credits)
C. Post-Veterinary Academic Training (Degrees, Internships, Residencies, Certification) ..... Intern/Residency=50; MS=75; PhD/Board=100 credits
D. Journal / Literature Self-Study and Online Education ..... Article/webcast=1; Book=1/chapter up to 10 credits/book
E. Clinical Experience & Case Logs (minimum 25 KSE Credits) ..... Case Report = 5 credits per case
F. Publications & Presentations in Professional Meetings ..... Published article=5; Peer-reviewed article=10 credits; Book Chapter=10; Complete Book=40; Lecture hour=5

Required Core Knowledge, Skills & Experience (KSE) Subject Area Modules (150 total credits required)

KSE Module 1: Aquatic Environment and Life Support Systems
KSE Module 2: Taxonomy, Anatomy and Physiology
KSE Module 3: Husbandry & Industries
KSE Module 4: Pathobiology & Epidemiology of Aquatic Animal Diseases
KSE Module 5: Diagnostics and Treatment of Aquatic Animal Diseases
KSE Module 6: Clinical Veterinary Experience and Client Communications
KSE Module 7: Public Health, Zoonotics and Seafood Safety
KSE Module 8: Legislation, Regulations, and Policies
KSE Module 9: Principles of Aquatic Animal Welfare

PRE-CLINICAL SUBJECTS

Add rows to table as necessary

KSE Module 1: Aquatic Environment and Life Support Systems List name of CEPD/Class/Article Source, Location and Date	**KSE Source Category (A,B,C,D,E,F)**	**Credits (hrs)**	
		Applicant Claimed	**Mentor Approved**
Traineeship: Company/institution name, Date(s), KSE Relevance: Completed an eight hour specification and benchmarking visit focused on the aquatic environment and life support systems used for research fish facilities including how water moves through the system at appropriate turnover, how filtration stages and disinfection are sequenced for reliability and biosecurity, where and how to monitor key water quality parameters, how alarms and responses are organised, how redundancy and isolation are built in for continuity of care, and how commissioning, routine maintenance, and cleaning solutions support day to day operations.	A	8	8
Self-Study: "Code of Good Practice for Scottish Finfish Aquaculture", KSE Relevance: Focused on life-support and water-quality provisions including system operation fallowing cleansing and monitoring requirements that interface with facility LSS. https://thecodeofgoodpractice.co.uk/	D	2	2
Self-Study: "The Laboratory Zebrafish", Edited by: Claudia Harper, Christian Lawrence. Pages: 85 - 174 KSE Relevance: Focused on water centered facility design and operations, comparing zebrafish units with mammalian vivaria and detailing how environmental control pathogen limitation and research workflow are achieved through life support systems that manage water delivery and removal for oxygen minerals feed wastes and pheromones; this strengthened my understanding of system layout monitoring and maintenance priorities required to keep conditions stable while supporting care and experiments https://www.taylorfrancis.com/books/mono/10.1201/b13588/laboratory-zebrafish-claudia-harper-christian-lawrence	D	3	3
Self-Study: "Recirculating Aquaculture Fourth Edition", By: Michael B. Timmons; Todd Guerdat; Brian J. Vinci. Pages: 1-167. KSE Relevance: Reviewed design and operation of recirculating aquaculture systems including hydraulics biofiltration solids removal oxygenation degassing disinfection monitoring control and startup commissioning to inform facility specification maintenance planning and troubleshooting for research and production settings. https://www.abebooks.com/9780971264670/Recirculating-Aquaculture-4th-Edition-Michael-0971264678/plp	F	5	5
Poster Presentation: “Advanced Technologies and Implementations in Aquaculture”. 2nd International 7th National Veterinary Pharmacology and Toxicology Congress 2022. KSE Relevance: This poster surveyed precision aquaculture tools such as: 24/7 sensor platforms, remote monitoring, AI-assisted analytics, and targeted feed/drug delivery linking them to concrete farm outcomes (earlier disease detection, reduced antimicrobial use, improved welfare). I presented use-cases across cage and tank systems and discussed integration with diagnostic workflows and decision support. This work strengthens my competence in selecting technology stacks that improve husbandry efficiency while aligning with AMR stewardship and welfare standards.	F	5	5
Lecture for 5th year veterinary interns: "Aquatic Life Support Systems: Design, Operation, and Water Quality Management", Weekly sessions from August 2023 - Present, Aquatic Centre, Best University Faculty of Veterinary Medicine. KSE relevance: Comprehensive instruction on aquatic life support systems encompassing flow-through, static, semi-static, and recirculation system design and operation. Sessions cover critical water quality parameters including salinity gradients, pH management, temperature control, nitrite, nitrate and ammonia levels, and dissolved oxygen optimization for freshwater and marine species. Detailed examination of mechanical, biological, and chemical filtration processes, including system	E	10	10

selection criteria for different applications, municipal water treatment considerations, and chemical contaminant management. Comparative analysis of life support requirements across research facilities, industrial aquaculture operations, and ornamental aquarium systems, with emphasis on species-specific environmental requirements and system maintenance protocols. Our aim with this course is to address the fundamental principles of aquatic environment management and life support technology essential for maintaining aquatic animal health and welfare.			
Credits Claimed for Module 1 [minimum 25 credits required]		**35**	**35**

Add rows to table as necessary

KSE Module 2: Taxonomy, Anatomy and Physiology List name of CEPD/Class/Article Source, Location and Date	**KSE Source Category (A,B,C,D,E,F)**	**Credits (hrs)**	
		Applicant Claimed	**Mentor Approved**
Lecture “Introduction to Zebrafish Workshop”. 22–23 May 2025 (lecture delivered 23 May 2025, 2 hours total). Best University Faculty of Veterinary Medicine. The 1-hour theory session introduced zebrafish developmental stages, basic anatomy/physiology, handling principles, and core husbandry. The 1-hour applied session covered hands-on handling, embryo collection and identification, and rearing steps, directly practicing procedures presented in theory. A short quiz at the end checked understanding of key points (staging, handling hygiene, early husbandry decisions). The activity demonstrates applied competence in translating husbandry and welfare concepts into routine practice.	F	5	5
PhD Seminar (Lecture) Fish Immune System: From the Proterozoic Era to Today and Beyond”. 5 June 2023. Veterinary Genetics Department, Best University Faculty of Veterinary Medicine. 1 hour. KSE relevance: Anatomy and physiology of the fish immune system across evolution: primary/secondary lymphoid organs (thymus, kidney, spleen, MALT), cellular compartments (granulocytes, macrophages, dendritic-like cells, B/T subsets), and molecular effectors (complement, PRRs, Ig isotypes). Enabled me to emphasize developmental staging and comparative physiology of teleost immunity, linking structure and function relationships to typical responses observed in aquatic species.	F	5	5
Aquarium Fish Diseases (VME1234). Undergraduate course, Best University, Faculty of Veterinary Medicine 1 hr/week × 14 weeks. KSE relevance: Provides an applied husbandry & health bridge for ornamental species: taxonomy and external morphology (scales, fins, skin), organ-system basics, species selection and compatibility, aquarium types/equipment and setup, breeding and nutrition, then etiology, diagnosis treatment of common aquarium fish diseases. The courses’ progression from system setup to case management trained me to connect environmental control and husbandry decisions with diagnostic reasoning and practical first line treatments.	B	4	4
Aquatic Animal Diseases (VME 1234). Undergraduate course, Best University Faculty of Veterinary Medicine — 1+2 hr/week, ~14 weeks. KSE relevance: In this integrated course I learned fish biology (taxonomy, morphology, physiology, osmoregulation) alongside water quality and culture systems. I practiced clinical inspection, necropsy, sampling, and preparing submissions to the laboratory, and I studied the main disease categories (non-infectious; bacterial, viral, fungal, parasitic), including zoonoses. I also learned fundamentals of treatment, medication options, vaccination, and reinforced these through practicals and farm visits, helped connecting husbandry and environment to diagnosis and control.	B	6	6
Lecture (Embryology Course-VME1234): “Aquatic Animal Embryogenesis with Focus on Zebrafish and African Clawed Frog” This module is delivered over a two-week period, with weekly two-hour practical sessions for the past two academic yeas. KSE Relevance: Delivers theoretical and practical sessions and demonstrations that guide students through live and archived image-based recognition of key	F	5	5

embryogenesis stages in zebrafish and the African clawed frog. Using images that have been captured during facility work, reviews staging landmarks, normal versus variant morphology and practical handling considerations for embryos and early larvae. Also addresses water quality and husbandry conditions that support normal development, basic welfare safeguards during observation and sampling and how clear staging improves the design and interpretation of experimental procedures.			
Self-Study: "Biology and Physiology of Freshwater Neotropical Fish", Edited by: Bernardo Baldisserotto, Elisabeth Criscuolo Urbinati and J.e.p. Cyrino. Pages: 1-74 KSE Relevance: I strengthened comparative anatomy and physiology knowledge to inform species appropriate husbandry and experimental design. https://www.sciencedirect.com/book/9780128158722/biology-and-physiology-of-freshwater-neotropical-fish	D	2	2
Self-Study: "Invertebrate Embryology and Reproduction", By: Fatma El-Bawab. KSE Relevance: I focused on the descriptive embryology of invertebrates and the accompanying reproductive biology reviewing morphological and anatomical terminology and stage descriptions across Protozoa Echinodermata Protochordata and Tunicata with each chapter's taxonomy aiding systematic context for economically important aquatic invertebrates including crustaceans and medically significant arthropods enabling accurate staging comparative anatomy and informed experimental design in aquatic research. https://www.sciencedirect.com/book/9780128141144/invertebrate-embryology-and-reproduction	D	2	2
Self-Study: "Fish Behavior 2 Ethophysiology", Author(s):Jacques Bruslé, Jean-Pierre Quignard. Pages: 1-72 KSE Relevance: I reviewed physiological mechanisms underlying behaviour to improve interpretation of experimental outcomes and refine husbandry. https://onlinelibrary.wiley.com/doi/book/10.1002/9781119722274	D	1	1
Credits Claimed for Module 2 [10 minimum credits required]		**30**	**30**

Add rows to table as necessary

KSE Module 3: Husbandry & Industries List name of CEPD/Class/Article Source, Location and Date	**KSE Source Category (A,B,C,D,E,F)**	**Credits (hrs)**	
		Applicant Claimed	**Mentor Approved**
Poster Presentation: “One Health Approach in Aquaculture”. International Congress February 2021, Online. KSE Relevance: The poster summarized how the One Health framework relates to aquaculture, highlighting links among environmental conditions, AMR, zoonoses and seafood safety. It presented high-level considerations for husbandry and biosecurity but did not detail surveillance protocols or therapeutic guidelines. My role was to help frame these connections for an aquaculture audience and communicate the general implications for practice. https://www.biohealthcongress.com/biohealth-2020/	F	5	5
Lecture “Zebrafish as a Model Organism: Housing Conditions and Experimental Applications”, 3 July 2025. KSE Relevance: I delivered a 2-hour lecture covering zebrafish facility operations (system components, water-quality management, biosecurity), husbandry standards across life stages, and common experimental applications (embryo/larval assays, behavioral tracking, dosing/exposure paradigms). The session emphasized welfare and refinement (handling, anesthesia/euthanasia, endpoints) and linked husbandry parameters to data quality and reproducibility. This teaching activity demonstrates applied competence in translating LSS and husbandry principles into research practice.	F	5	5
EURL Training for Fish & Crustacean Diseases (Farm Visit: Inspection, Sampling & Husbandry Context). 10–14 October 2022. EURL for Fish & Crustacean Diseases, DTU, Copenhagen, Denmark. KSE relevance: On-site fish-farm inspection and sampling procedures with practical implications for daily husbandry, biosecurity, and operational workflows. Linking facility realities (stocking, water management, movement controls) to surveillance feasibility and sample quality.	A	2	2
Traineeship to Zebrafish Facility, 15 October 2025, KSE Relevance: This visit addressed husbandry and housing across freshwater and marine species including zebrafish, cichlids, killifish, and amphibians. We reviewed water quality management, breeding methods, feeding strategies, welfare and welfare enhancement measures, quarantine procedures, routine health checks including frequency and scope, triggers for diagnostic sampling, and practical management of large-scale aquatic experimental animal operations. We also discussed common diseases, experimental procedures, and treatment approaches in the context of high density facilities.	A	4	4
CEPD: "Best University , Fish and Amphibians Research (Webinar)", 29-30.11.2021, KSE Relevance: I attended sessions on practical husbandry across taxa including zebrafish cichlids sticklebacks salmonids amphibians reptiles cephalopods and wild fish covering stock management breeding and handling system operation and general zebrafish husbandry and stock control with attention to health monitoring logistics in facility and field settings.	A	6	6
Self-Study: "Code of Good Practice for Scottish Finfish Aquaculture", KSE Relevance: I reviewed operational guidance for Scottish finfish production covering biosecurity stock movements health planning fallowing and record keeping to inform husbandry practice. https://thecodeofgoodpractice.co.uk/	D	2	2
Self-Study: "Laboratory Fish in Biomedical Research Biology Husbandry and Research Applications, Biology, Husbandry and Research Applications for zebrafish, medaka, killifish, cavefish, stickleback, goldfish and Danionella translucida", Edited by: Livia D'angelo and Paolo De Girolamo. Pages: 63-137. KSE Relevance: I consolidated species specific husbandry welfare and research application knowledge for zebrafish medaka killifish cavefish stickleback goldfish and Danionella to improve colony management and study design. https://www.sciencedirect.com/book/9780128210994/laboratory-fish-in-biomedical-research	D	3	3
Self-Study: "The Zebrafish in Biomedical Research Biology Husbandry Diseases and Research	D	10	10

Applications", Edited by: Samuel C. Cartner, Judith S. Eisen, Susan C. Farmer, Karen J. Guillemin, Michael L. Kent, George E. Sanders. KSE Relevance: I completed an in depth review of zebrafish biology husbandry colony management disease recognition and research use that directly supports leadership in an academic zebrafish unit. https://www.sciencedirect.com/book/9780128124314/the-zebrafish-in-biomedical-research			
Self-Study: "Fish Behavior 1 Eco-ethology", Author(s):Jacques Bruslé, Jean-Pierre Quignard. Pages: KSE Relevance: I examined ecological drivers of behaviour that impact welfare enrichment and experimental bias in captive fishes. https://onlinelibrary.wiley.com/doi/book/10.1002/9781119721932	D	2	2
CEPD: "Fish Health Management in the Canadian Aquaculture Industry (FVS-621)", 03.06.2021, KSE Relevance: I attended an overview of fish health challenges in Canadian aquaculture and corresponding management strategies.	A	0.5	0.5
CEPD: "Fish Bone Health Unravelling the Role of Mineral Nutrition in Health Bone Mineralization and Spinal Deformities in Farmed Atlantic Salmon (B-1078)", 14.12.2023, KSE Relevance: I attended a nutrition and physiology update on mineral balance skeletal development deformity risks and monitoring strategies in salmon.	A	1	1
CEPD: "The Need for a New Normal Rethinking feeding of Salmon and Trout for better health outcomes (B-1087)", 14.11.2024, KSE Relevance: I attended a talk on nutrition strategies and feed reforms to improve fish health outcomes in salmonids and reduce disease risk.	A	1	1
CEPD: "Aquaculture is not agriculture under water – so what? (B-1088)", 05.12.2024, KSE Relevance: I attended a seminar discussing how aquaculture differs fundamentally from terrestrial agriculture and the implications for fish health management and policy	A	1	1
Credits Claimed for Module 3 [25 minimum credits required]		**42.5**	**42.5**

CLINICAL SUBJECTS

Add rows to table as necessary

KSE Module 4: Pathobiology & Epidemiology of Aquatic Animal Diseases List name of CEPD/Class/Article Source, Location and Date	**KSE Source Category (A,B,C,D,E,F)**	**Credits (hrs)**	
		Applicant Claimed	**Mentor Approved**
Peer-reviewed review article “Antibiotic Resistance in Aquaculture and the Role of Biofilms” KSE Relevance: As a co-author, I reviewed drivers and consequences of antimicrobial resistance (AMR) in finfish aquaculture, emphasising biofilm-mediated tolerance, MIC vs. MBIC/MBEC gaps, and treatment failures in pathogens such as Aeromonas and Vibrio. The paper synthesises international regulatory/usage data, clinical outcomes, and mechanism-focused literature (quorum sensing, efflux, enzyme induction), and outlines implications for surveillance, prudent use, and alternative strategies. This work strengthens my competency in interpreting disease ecology and AMR risks across production systems and translating them into evidence-based husbandry and treatment guidance. https://doi.org/10.38137/vetfarmatoksbulten.834364	F	10	10
Conference oral presentation : Mini-review: Xenopus laevis as a model for environmental & reproductive toxicity research, 2nd Turkish & Italian Joint International Congress of Animal Reproduction, 10-12.06.2025, Sicily, Italy. KSE Relevance: This oral presentation synthesized current applications of Xenopus laevis in environmental and reproductive toxicity testing, highlighting assay designs (e.g., endocrine and gametotoxic endpoints), exposure paradigms, and translational value to aquatic species management. I presented methodological strengths/limitations versus other models, ethical/welfare considerations, and implications for interpreting toxicodynamics relevant to aquaculture health. The work reinforces my competency in selecting appropriate models and endpoints for hazard identification and risk assessment in aquatic systems. https://sira.vet/en/2023/06/20/he-runs-towards-the-maybury-hill-embeds/	F	5	5
EURL Training for Fish & Crustacean Diseases (Legal & Policy Framework for Listed Fish Diseases). 10–14 October 2022. EURL for Fish & Crustacean Diseases, DTU, Copenhagen, Denmark. KSE relevance: Orientation to the EU aquatic animal health legislation, competent-authority roles, notification/reporting pathways, and alignment with WOAH Manual guidance. Connects lab/field methods to compliance, official controls, and regulator laboratory interfaces.	A	4	4
Fish Disease Pathology (VME1234). Undergraduate course, Best University Faculty of Veterinary Medicine (7th semester; 1 h/week × 14 weeks). KSE relevance: In this course I have learned system-by-system framework for recognising and explaining disease processes in fish. The course covers etiopathogenesis and morphopathology across the respiratory, alimentary, nervous, cardiovascular, urinary, haematopoietic, genital and integumentary systems, linking gross and microscopic lesions to likely differentials (infectious and non-infectious) and neoplasia.	B	7	7
Aquatic Animal Diseases (VME1234). Undergraduate course (8th semester), Best University Faculty of Veterinary Medicine — 1+2 hr/week (2+2 while I was a student), ~14 weeks. KSE relevance: In this integrated course I learned fish biology (taxonomy, morphology, physiology, osmoregulation) alongside water quality and culture systems. I practiced clinical inspection, necropsy, sampling, and preparing submissions to the laboratory, and I studied the main disease categories (non-infectious; bacterial, viral, fungal, parasitic), including zoonoses. I also learned fundamentals of treatment, medication options, vaccination, and reinforced these through practicals and farm visits, helped connecting husbandry and environment to diagnosis and control.	B	8	8
"Certificate of Animal Use in Experimental Research", University Medical Research Centre, 30.08.2021 to	A	8	8

10.09.2021, KSE Relevance: I completed a comprehensive program that included biostatistics standardisation of experimental work overviews of animal diseases with screening and interpretation and core principles of experimental models and study design. I am claiming the aquatic relevant portion for epidemiology and pathobiology based on the transferability of these topics to fish health.			
CEPD: "University of Bern – Fish and Amphibians Research @ Unibe (Webinar)", 29–30.11.2021, KSE Relevance: I attended disease and research model sessions including most prevalent diseases of salmonids and zebrafish health monitoring programs infectious models in zebrafish and experimental design considerations that affect interpretation of population and disease outcomes.	A	4	4
CEPD: "EPA NAMs Training SeqAPASS Virtual Training", 01 May 2025, KSE Relevance: I attended a virtual training on the SeqAPASS tool covering cross species sensitivity prediction and a live demonstration of the user interface for ecotoxicology applications.	A	4	4
Self-Study: "Principles of Fish Immunology From Cells and Molecules to Host Protection", Edited By: Kurt Buchmann, Christopher J. Secombes. KSE Relevance: I deepened understanding of innate and adaptive fish immunity host pathogen interaction and implications for vaccines and health management. https://link.springer.com/book/10.1007/978-3-030-85420-1	D	8	8
Self-Study: "Cellular and Molecular Approaches in Fish Biology", Edited by: Ignacio Fernández Monzón and Jorge M.o. Fernandes. Pages: 69-159, KSE Relevance: I reviewed cellular and molecular methods that inform physiology pathology and genomics driven health research in fishes. https://www.sciencedirect.com/book/9780128222737/cellular-and-molecular-approaches-in-fish-biology	D	2	2
Self-Study: "Fish Diseases and Disorders Volume 1 Protozoan and Metazoan Infections", By: Woo, P.T.K.. KSE Relevance: I reviewed aetiology epidemiology diagnosis and control for major parasitic diseases impacting aquaculture. https://www.cabidigitallibrary.org/doi/book/10.1079/9780851990156.0000	D	2	2
Self-Study: "Fish Diseases and Disorders Volume 2 Non Infectious Disorders", By: Leatherland, John F.; Woo, Patrick T.K.. Pages: 1-18, 85-143 KSE Relevance: I studied environmental nutritional toxic and developmental disorders with emphasis on prevention and risk reduction. https://www.cabidigitallibrary.org/doi/book/10.1079/9781845935535.0000	D	2	2
Self-Study: "Fish Diseases and Disorders Volume 3 Viral Bacterial and Fungal Infections", By: P. T. K. Woo, D. W. Bruno. Pages: 1-165 KSE Relevance: I reviewed pathogenesis diagnostics and control strategies for infectious diseases of cultured fishes. https://www.cabidigitallibrary.org/doi/book/10.1079/9781845935542.0000	D	3	3
CEPD: "Main Marine Mollusk Diseases (B-1037)", 09.10.2020, KSE Relevance: I attended a lecture on key diseases of marine mollusks their detection impacts and control approaches with relevance to public health and trade.	A	1	1
CEPD: "Main infectious diseases of farmed marine fish (B-1036)", 27.07.2020, KSE Relevance: I attended a talk on aetiology, epidemiology and diagnosis of key bacterial/viral diseases in marine finfish culture.	A	1	1
CEPD: "Zebrafish as a model for fish diseases (B-1042)", 15.04.2021, KSE Relevance: I attended a joint WAVMA-EAFP webinar on leveraging zebrafish models to study fish diseases and translate findings	A	2	2
CEPD: "Indian Ocean Aquaculture Impacts of Infectious Diseases in its Development (B-1044)", 18.05.2021, KSE Relevance: I attended a regional synthesis of infectious disease pressures surveillance gaps and control strategies affecting industry development	A	1	1
CEPD: "Common Diseases and Disorders of Mussels in the Mediterranean Sea (B-1050)", 24.11.2021, KSE Relevance: I attended an overview of major mussel diseases diagnostics and management with implications for trade and food safety	A	1	1
CEPD: "Epidemiology of marine gill disease in Atlantic salmon (FVS-921)", 02.09.2021, KSE Relevance: I	A	0.5	0.5

attended an FVS webinar on MGD epidemiology and risk factors in marine salmon aquaculture.			
CEPD: "Piscine orthoreovirus distribution, characterization and experimental infection in salmonids (B-1053)", 25.02.2022, KSE Relevance: I attended a joint WAVMA-EAFP webinar on PRV epidemiology, characterization and experimental infection studies.	A	1	1
CEPD: "Environmental DNA for the study of ocean biodiversity (B-1059)", 26.08.2022, KSE Relevance: I attended a webinar on eDNA applications from microbes to vertebrates and implications for surveillance and ecosystem health.	A	1	1
CEPD: "Tenacibaculosis in Salmonid Species (B-1060)", 28.10.2022, KSE Relevance: I attended a disease focused seminar on aetiology transmission diagnostics differential diagnosis and control strategies for Tenacibaculosis	A	1	1
CEPD: "The Rise of the Opportunists Are Secondary Bacterial Infections or Disease Syndromes Becoming More Common in Aquaculture (B-1065)", 03.02.2023, KSE Relevance: I attended a discussion on secondary infections multifactorial disease syndromes contributing risks and implications for diagnostics and control.	A	1	1
CEPD: "Classification of Mortalities in Salmonid Aquaculture According to Causality (B-1066)", 03.03.2023, KSE Relevance: I attended a session on structured mortality attribution using epidemiologic reasoning data capture and investigation workflows to inform management actions	A	1	1
CEPD: "From French Guiana to the French Quarter Evolution of pathogenicity in Mycobacterium ulcerans (B-1069)", 16.06.2023, KSE Relevance: I attended a talk tracing the evolution of M. ulcerans pathogenicity and its aquatic/environmental context	A	1	1
CEPD: "New Diseases in Fishes (B-1071)", 27.07.2023, KSE Relevance: I attended a surveillance oriented update on emerging diseases diagnostic cues reporting triggers and implications for control	A	1	1
CEPD: "Enteromyxosis exposed integrating genomic and morphological approaches (B-1074)", 16.11.2023, KSE Relevance: I attended a seminar on combining genomics and histopathology to investigate enteromyxosis and improve diagnosis/understanding of disease mechanisms	A	1	1
CEPD: "Myxozoan parasites in fishes (B-1081)", 03.04.2024, KSE Relevance: I attended a session on myxozoan biology, epidemiology, diagnosis and control as emerging and economically important fish pathogens	A	1.5	1.5
CEPD: "Genetic Improvement and Disease Resistance Applications in Aquatic Veterinary Medicine (B-1086)", 16.10.2024, KSE Relevance: I attended a webinar on genetic tools to enhance disease resistance and their veterinary applications, with case examples and implementation considerations	A	1.5	1.5
Credits Claimed for Module 4 [25 minimum credits required]		**84**	**84**

Add rows to table as necessary

KSE Module 5: Diagnostics and Treatment of Aquatic Animal Diseases List name of CEPD/Class/Article Source, Location and Date	**KSE Source Category (A,B,C,D,E,F)**	**Credits (hrs)**	
		Applicant Claimed	**Mentor Approved**
Conference oral presentation: Tracking Systems in Zebrafish: Current Trends in Pharmacology and Toxicology, 11-13.09.2025, 3rd International 8th National Veterinary Pharmacology and Toxicology Congress, Ankara, Türkiye. KSE Relevance: This talk surveyed contemporary tracking systems for zebrafish used in pharmacology and toxicology covering high-throughput larval locomotion platforms, adult behavior tracking, dosing/exposure paradigms, and links to PK/PD readouts. I contributed to framing how these systems support dose response, toxicity profiling, and therapeutic screening, and how readouts integrate with diagnostics and refinement of treatment strategies. The session strengthened my applied competency in selecting and interpreting zebrafish tracking technologies for experimental therapeutics and toxicology assessments. https://vetfarmatoks2025.com.tr/congre/default.asp?id=2	F	1	1
Workshop: "2nd VetAqua (VetAkua) Workshop". Organiser & Participant. 31 March 2022, Ankara, Türkiye (online theory + in-person practical + technical visit). KSE Relevance: I helped organise the workshop in general. Assisted with and completed histopathology workshop and did fish necropsy, collected tissues, and participated in slide review to recognise common lesions. The technical visit focused on species identification, basic biology, and husbandry context (environmental needs, welfare considerations). The day reinforced practical communication and entry-level diagnostic skills while engaging students and stakeholders. https://www.veterinary.ankara.edu.tr/2022/04/07/ii-vetakua-calistayi-basariyla-gerceklestirildi/	A	1.5	1.5
EURL Training for Fish & Crustacean Diseases (Cell Culture, Real-Time PCR, Sequencing & Phylogeny). 10–14 October 2022. EURL for Fish & Crustacean Diseases, DTU, Copenhagen, Denmark. KSE relevance: Hands-on and theory covering fish farm sampling, cell culture diagnostics (BF-2/EPC/CCB/ASK), recognition of CPE and virus titration, Real-Time PCR workflows and troubleshooting, and sequence analysis/BLAST/phylogenetic interpretation. Emphasis on diagnostic decision-making, analytical pitfalls, and how test outputs guide case management and control options.	A	16	16
Aquarium Fish Diseases (VME1234). Undergraduate course (7th semester), Best University Faculty of Veterinary Medicine, 1 hr/week × 14 weeks. KSE relevance: Provides an applied husbandry & health bridge for ornamental species: taxonomy and external morphology (scales, fins, skin), organ-system basics, species selection and compatibility, aquarium types/equipment and setup, breeding and nutrition, then etiology, diagnosis treatment of common aquarium fish diseases. The courses' progression from system setup to case management trained me to connect environmental control and husbandry decisions with diagnostic reasoning and practical first line treatments.	B	3	3
Aquatic Animal Diseases (VME1234). Undergraduate course (8th semester), Best University Faculty of Veterinary Medicine — 1+2 hr/week (2+2 while I was a student), ~14 weeks. KSE relevance: In this integrated course I learned fish biology (taxonomy, morphology, physiology, osmoregulation) alongside water quality and culture systems. I practiced clinical inspection, necropsy, sampling, and preparing submissions to the laboratory, and I studied the main disease categories (non-infectious; bacterial, viral, fungal, parasitic), including zoonoses. I also learned fundamentals of treatment, medication options, vaccination, and reinforced these through practicals and farm visits, helped connecting husbandry and environment to diagnosis and control.	B	12	12
Project (National Technology Competition Finalist): "Emergency System for Monitoring Fisheries Pathogens Predicted to Increase with Global Warming". KSE Relevance: This project was presented as	F	5	5

part of Türkiye's leading national technology competition, where it was selected as a finalist among more than 1,400 entries, ranking within the top ten. We developed a proof-of-concept aquatic drone designed for on-site monitoring of aquaculture conditions, with planned modules for temperature, pH, and dissolved oxygen sensing, optical/visual inspection, and microfluidic sampling to support pathogen surveillance. The presentation highlighted the system architecture, intended applications during environmental stress events, and target users (farm managers, veterinarians, and regulators). As a design-stage prototype, the project focused on demonstrating feasibility and proposed workflows rather than validated field diagnostics.			
"Certificate of Animal Use in Experimental Research", University Medical Research Centre, 30.08.2021 to 10.09.2021, KSE Relevance: I completed practical skills blocks on sampling of blood and tissues drug administration and injection techniques and introductory surgical principles. I am claiming the aquatic relevant portion of these clinical skills as they translate directly to fish diagnostics and case management.	A	10	10
Self-Study: "WOAH Aquatic Manual", KSE Relevance: I studied diagnostic case definitions sampling guidance validated assays and quality management notes for priority pathogens to strengthen test selection and interpretation. https://sont.woah.org/portal/tool?le=en	D	3	3
Self-Study: "Zebrafish Methods for Assessing Drug Safety and Toxicity", Editor(s):Patricia McGrath. Pages: 15-87 KSE Relevance: I studied toxicity testing designs anaesthesia dosing exposure systems endpoints and data interpretation specific to zebrafish. https://onlinelibrary.wiley.com/doi/book/10.1002/9781118102138	D	3	3
Self-Study: "Fish Diseases and Medicine", Edited By Stephen A. Smith. Pages: 46-145. KSE Relevance: I integrated diagnostic reasoning therapeutics pharmacology and case management principles for clinical aquatic practice. https://www.taylorfrancis.com/books/edit/10.1201/9780429195259/fish-diseases-medicine-stephen-smith	D	3	3
CEPD: "Skin Deep Microscopic Anatomy of Normal Finfish Integument (B-1035)", 22.06.2020, KSE Relevance: I attended a foundational histology webinar on normal skin structure to support lesion recognition in diagnostics	A	1	1
CEPD: "Current advances in diagnostics and treatments of farmed fish (B-1039)", 07.11.2020, KSE Relevance: I attended a webinar reviewing recent advances in diagnostics and therapeutics for farmed fish	A	1	1
CEPD: "Current Advances in Diagnostics and Treatments of Ornamental Fish (B-1038)", 07.11.2020, KSE Relevance: I attended a clinical update on diagnostic tools therapeutics and case management specific to ornamental species	A	1	1
CEPD: "Clinical chemistry to assess fish health in aquaculture (FVS-622)", 03.06.2021, KSE Relevance: I attended a session on using clinical chemistry panels to assess fish health and support diagnosis/monitoring	A	0.5	0.5
CEPD: "Case Studies of Fish Diseases Requiring Histopathological Investigation (FVS-852)", 15.07.2021, KSE Relevance: I attended case based instruction on when and how to use histopathology to reach diagnosis and guide management decisions	A	1.5	1.5
CEPD: "Applying radiology and sonography in the aquatic practice (B-1047)", 24.08.2021, KSE Relevance: I attended a clinical imaging webinar on practical radiography/ultrasound techniques and interpretation for aquatic species	A	1	1
CEPD: "Vaccination in fishes practical applications for successful disease control and future challenges (FVS-922)", 02.09.2021, KSE Relevance: I attended an FVS webinar on fish vaccination strategies, practical deployment and emerging challenges	A	1	1
CEPD: "Gill Disease Challenges in Salmonid Aquaculture More Than Just AGD (B-1051)", 15.12.2021, KSE Relevance: I attended an update on multifactorial gill disease syndromes sampling and diagnostic	A	1	1

workflows and integrated management			
CEPD: "The Use of Autogenous Vaccines in Aquaculture (B-1052)", 27.01.2022, KSE Relevance: I attended a session on indications regulatory considerations production and field deployment of autogenous vaccines with case examples	A	1	1
CEPD: "Gill disease in Atlantic salmon A complex situation (B-1058)", 29.07.2022, KSE Relevance: I attended a seminar covering complex gill disease (CGD), correct sample handling, and diagnostic workflows in salmon aquaculture	A	1	1
CEPD: "Practical Measures in Shrimp Disease Management (B-1072)", 24.08.2023, KSE Relevance: I attended a practical review of shrimp disease detection confirmation treatment options and husbandry measures to limit spread and impact	A	1	1
CEPD: "The Mucus advantages for early diagnosis and non-lethal sampling (B-1073)", 13.10.2023, KSE Relevance: I attended a lecture on using skin mucus for early diagnosis (e.g., SRS, ISAV) and non-lethal sampling strategies	A	1	1
CEPD: "Unmasking the Ordinary Challenging cases in Aquatic Pathology (B-1094)", 30.07.2025, KSE Relevance: I attended a pathology-focused webinar featuring challenging diagnostic cases and discussion of practical approaches to "ordinary-looking" lesions that conceal significant disease	A	1	1
Case Report: Effects of Different Feeding Regimens on White Shrimp (Litopenaeus setiferus) Under Biofloc Technology: An Integrated Clinical Monitoring Approach (Concluded October 10, 2025), KSE Relevance: I provided veterinary oversight for experimental biofloc shrimp study across 18 culture units, establishing systematic clinical monitoring protocols integrating daily behavioral assessments, environmental quality surveillance, and production performance evaluation. I designed humane euthanasia and histopathological sampling protocols for crustacean hepatopancreas examination, conducted post-mortem examinations to differentiate mortality causes, and developed tissue processing protocols. This demonstrates application of veterinary clinical reasoning to intensive aquaculture, disease surveillance methodology, and integration of environmental parameters with histopathological findings.	E	5	5
Case report: Polymicrobial Septicemia in Discus (Symphysodon sp.): Multi-Organ Culture Reveals Organ-Specific Susceptibility Patterns (Submitted August 4, 2025), KSE Relevance: I conducted systematic multi-organ bacteriological investigation of two discus with acute disease, identifying Serratia marcescens and Plesiomonas shigelloides through individual culture of liver, spleen, and kidney. Critical findings revealed organ-specific antimicrobial resistance patterns: hepatic isolates resisted florfenicol, gentamicin, and oxytetracycline while splenic/renal isolates remained susceptible. This demonstrates advanced diagnostic bacteriology methodology and the clinical significance of multi-organ sampling where single-organ culture may provide misleading therapeutic guidance.	E	5	5
CEPD: FAO e-Learning Academy , Emergency preparedness for aquatic disease outbreaks, (4.03.2025) KSE Relevance: Self-paced training covering topics such as understanding diseases of aquatic organisms, outbreak investigation, diagnostics, a 12-point active surveillance checklist, and contingency planning for mass mortality events. https://elearning.fao.org/course/view.php?id=1197#section-2	A	3	3
Credits Claimed for Module 5 [25 minimum credits required]		**87**	**87**

Add rows to table as necessary

KSE Module 6: Clinical Veterinary Experience and Client Communications List name of CEPD/Class/Article Source, Location and Date	**KSE Source Category (A,B,C,D,E,F)**	**Credits (hrs)**	
		Applicant Claimed	**Mentor Approved**
Workshop: “2nd VetAqua (VetAkua) Workshop”. Organiser & Participant. 31 March 2022, Ankara, Türkiye (in-person practical). KSE Relevance: I helped organise the workshop in general. Assisted with and completed histopathology workshop and did fish necropsy, collected tissues, and participated in slide review to recognise common lesions. The technical visit focused on species identification, basic biology, and husbandry context (environmental needs, welfare considerations). The day reinforced practical communication and entry-level diagnostic skills while engaging students and stakeholders. https://www.veterinary.ankara.edu.tr/2022/04/07/ii-vetakua-calistayi-basariyla-gerceklestirildi/	A	1.5	1.5
CEPD: "A Fish Swims into Your Office Triage for Fish Cases", 31.03.2022, KSE Relevance: I attended a one hour clinical triage session for fish cases focusing on structured history taking prioritization and stabilization decision making common emergency presentations indications for diagnostics referral criteria and client communication to ensure timely and appropriate case management;	A	1	1
Experience: “Best University Aquatic Experimental Animal Research Centre”, March 2023 - Cont., KSE Relevance: Since March 2023, I have served as a Welfare Committee member and laboratory assistant in an aquatic research facility, conducting daily health assessments, water quality monitoring, and clinical care of experimental aquatic animals. My responsibilities include physical examinations, diagnostic sample collection, therapeutic interventions for diseased animals, coordination of breeding programs, and execution of assays such as embryotoxicity, bioaccumulation etc. This role has provided practical experience in clinical examination techniques adapted to aquatic species, interpretation of health indicators, case management, and application of treatment protocols within a regulated research environment.	E	10	10
CEPD: "Enhancing Aquatic Disease Surveillance Towards One Health (B-1046)", 05.08.2021, KSE Relevance: I attended a webinar on surveillance system design data flows and cross sector collaboration to protect animal human and environmental health	A	1	1
CEPD: "Clinical Cases in Private Aquatic Animal Practice (B-1070)", 29.06.2023, KSE Relevance: I attended a case-driven session covering diagnostic reasoning, client communication, and treatment planning in private aquatic practice	A	1	1
CEPD: "Special WebCEPD Event and WAVMA AGM 2023 (B-1076/1077)", 05.12.2023, KSE Relevance: I attended a special scientific event and the association annual general meeting including scientific updates and professional issues relevant to aquatic veterinary practice	A	1.5	1.5
CEPD: "Providing a Fish Health Service to Clients Engaged in Sea-Cage Culture (B-1084)", 25.07.2024, KSE Relevance: I attended a practice focused session on service delivery to sea cage clients including health planning diagnostics treatment logistics and stakeholder communication	A	1	1
CEPD: "Fish ER Medicine (B-1089)", 30.01.2025, KSE Relevance: I attended a clinical webinar on emergency assessment stabilisation diagnostics initial therapeutics and referral criteria for acute fish presentations	A	1	1
CEPD: "Cetacean Stranding Response (B-1091)", 30.04.2025, KSE Relevance: I attended a response workflow for stranded cetaceans covering scene assessment triage humane welfare actions sampling and coordination with competent authorities and networks to safeguard responders public health and animal welfare	A	1	1
CEPD: "Stranding Response in Remote Areas Managing Dog Attack Wounds in Sea Turtles B-1095", 29.10.2025, KSE Relevance: I attended a webinar on responding to feral dog attack injuries in remote	A	1	1

nesting areas covering assessment of feral dog impacts practical wound management in resource limited settings and recognition of clinical challenges with an emphasis on evidence based field care and coordination for stranding response			
Case report: Environmental Stress-Induced Disease in Flowerhorn Cichlid (Cichlasoma sp.): Management Through Temperature and Enrichment Optimization (July 25, 2025), KSE Relevance: I diagnosed environmental stress-induced disease in a flowerhorn cichlid with lateral recumbency and nuchal hump reduction despite normal water chemistry. Through comprehensive environmental assessment, I identified elevated temperature (28°C) and complete habitat barrenness as primary disease factors. Treatment integrated temperature optimization, environmental enrichment, and dietary modification, demonstrating that fish health assessment must extend beyond water chemistry to include temperature, habitat complexity, and behavioral needs.	E	5	5
Case report: Water Quality-Associated Disease in Flowerhorn Cichlid (Cichlasoma sp.): Integrated Medical and Environmental Management (October 6, 2025), KSE Relevance: I diagnosed suspected swim bladder inflammation and water quality-associated disease in a flowerhorn cichlid maintained without water quality monitoring. I developed integrated treatment combining daily antimicrobial baths (enrofloxacin plus salt), established comprehensive water quality monitoring protocols with parameter targets, and implemented dietary modification. Treatment achieved complete recovery within seven days. This demonstrates diagnostic reasoning under resource constraints, practical outpatient treatment protocol development, and integration of medical therapy with environmental management.	E	5	5
Case report: Bacterial Septicemia in Paradise Fish (Macropodus opercularis): Atypical Presentation with Broad Antimicrobial Sensitivity(May 21, 2025), KSE Relevance: I investigated atypical septicemia in a paradise fish presenting with systemic signs while maintaining good body condition. Systematic necropsy revealed minimal gross pathology but significant microscopic lesions including gill hyperplasia, hepatocyte necrosis, and renal tubular degeneration. Bacteriological culture confirmed systemic infection with complete antimicrobial susceptibility across all tested agents. This demonstrates the critical importance of histopathological examination when gross pathology is inconclusive and recognition that acute septicemia can develop in apparently healthy individuals.	E	5	5
Credits Claimed for Module 6 [25 minimum credits required]		**35**	**35**

Add rows to table as necessary

KSE Module 7: Public Health, Zoonotics and Seafood Safety List name of CEPD/Class/Article Source, Location and Date	**KSE Source Category (A,B,C,D,E,F)**	**Credits (hrs)**	
		Applicant Claimed	**Mentor Approved**
EURL Training for Fish & Crustacean Diseases (Public Health Considerations in Aquatic Disease Surveillance). 10–14 October 2022. EURL for Fish & Crustacean Diseases, DTU, Copenhagen, Denmark. KSE relevance: Public health related aspects of surveillance for listed fish diseases, including risk pathways to seafood supply chains and communication/reporting expectations. Consolidates how surveillance outputs support broader One Health risk management.	A	2	2
Handbook: Notifiable and Quality-Impacting Diseases in UK Wild-Capture Fish for Import/Export Certification. Prepared May 2025 for AIO Partners Ltd. as a field reference guide for Official Veterinarians conducting health certification of animal-based products. KSE relevance: I supported the development of a training manual used in internal education programs for Official Veterinarians in the preparation of veterinary health certificates for UK wild-capture fish species in import/export operations within the company. The handbook covers disease recognition, sampling protocols, laboratory test requests, and specimen submission procedures for conditions affecting product certification and marketability.	E	5	5
CEPD: "Cure4Aqua Aquaculture Biosecurity Training Part I", 09 July 2025, KSE Relevance: I attended an online training covering risk pathways biosecurity planning and audit fundamentals with an emphasis on protecting seafood safety and reducing zoonotic risk through prevention detection and response measures at farm level	A	2	2
CEPD: "Cure4Aqua Aquaculture Biosecurity Training Part II", 10 July 2025, KSE Relevance: I attended a follow up session on implementing and monitoring biosecurity plans including practical audit tools incident response checklists and communication lines relevant to seafood safety and public health protection	A	2	2
Self-Study: "Best Aquaculture Practices certification standards", KSE Relevance: I studied BAP criteria for biosecurity welfare feed traceability and food safety to align farm assurance with public health outcomes. https://www.bapcertification.org/Standards	D	2	2
CEPD: "Main Diseases with Economic and Public Health Impact on Tilapia Industry (B-1041)", 24.02.2021, KSE Relevance: I attended a review of tilapia pathogens with major economic and public health consequences and control priorities	A	1	1
CEPD: "Fins, scales, and shells One Health from an aquatic veterinary epidemiological perspective (B-1055)", 29.04.2022, KSE Relevance: I attended a One-Health talk linking aquatic animal health, environment, and human health with epidemiological examples	A	1	1
CEPD: "Sanitary Challenges in Salmon Aquaculture in Chile (B-1062)", 16.12.2022, KSE Relevance: I attended a regional overview of sanitary risks surveillance measures regulatory responses and lessons for public health protection	A	1	1
CEPD: "Practical Approach to Aquatic Veterinary Biosecurity (B-1063)", 24.03.2023, KSE Relevance: I attended a session comparing aquatic and terrestrial veterinary biosecurity and translating concepts into practical facility measures	A	1.5	1.5
CEPD: "Contact-zoonotic bacterial infections of fish zoonosis and diagnosis (B-1068)", 25.05.2023, KSE Relevance: I attended a One-Health webinar summarizing contact-zoonotic fish pathogens, clinical features in humans, and diagnostic approache	A	1	1
CEPD: "Antimicrobial resistance and alternatives in aquaculture (B-1079)", 25.01.2024, KSE Relevance: I attended a webinar reviewing AMR drivers in aquaculture and practical alternatives to antimicrobials within One-Health frameworks	A	1	1

CEPD: "Aquaculture Management Systems versus Quality and Safety of Farmed Fish Products in the Blue Economy (B-1082)", 25.04.2024, KSE Relevance: I attended a webinar linking management systems biosecurity traceability and HACCP style controls to product quality and consumer safety	A	1	1
CEPD: "When Seafood is 'Fishy' in More Ways than One… Foodborne Illnesses of Marine Origin (B-1085)", 05.09.2024, KSE Relevance: I attended an overview of marine foodborne hazards pathogenesis exposure pathways risk mitigation and communication for seafood safety	A	1	1
CEPD: "Biotechnological Strategies to Avoid Antibiotic Use in Managing Bacterial Infections in Farmed Freshwater Fish (B-1090)", 27.02.2025, KSE Relevance: I attended a session on non antibiotic interventions including vaccines probiotics phage and immunostimulants to reduce AMR risk and improve fish health outcomes	A	1	1
CEPD: "Aquaculture Biosecurity (B-1092)", 28.05.2025, KSE Relevance: I attended a webinar outlining pathogen risk pathways and practical biosecurity measures informed by aquaculture veterinary outreach experience	A	1	1
CEPD: "Enhancing Aquatic Disease Surveillance Towards One Health (B-1046)", 05.08.2021, KSE Relevance: I attended a webinar on surveillance system design data flows and cross sector collaboration to protect animal human and environmental health	A	1	1
Credits Claimed for Module 7 [5 minimum credits required]		**24.5**	**24.5**

Add rows to table as necessary

KSE Module 8: Legislation, Regulations, and Policies List name of CEPD/Class/Article Source, Location and Date	**KSE Source Category (A,B,C,D,E,F)**	**Credits (hrs)**	
		Applicant Claimed	**Mentor Approved**
EURL Training for Fish & Crustacean Diseases (Legal & Policy Framework for Listed Fish Diseases). 10–14 October 2022. EURL for Fish & Crustacean Diseases, DTU, Copenhagen, Denmark. KSE relevance: Orientation to the EU aquatic animal health legislation, competent-authority roles, notification/reporting pathways, and alignment with WOAH Manual guidance. Connects lab/field methods to compliance, official controls, and regulator–laboratory interfaces.	A	4	4
Veterinary Legislation and Ethics (VME1234). Undergraduate course (7th semester), Best University Faculty of Veterinary Medicine, 1 hr/week × 14 weeks. KSE relevance: This course focuses on legal/ethical responsibilities of veterinarians and the Turkish regulatory framework relevant to veterinary activities: TVMA structure, Law No. 6343 and implementing regulations, clinic/polyclinic and animal hospital regulations, animal rights/animal protection, and professional deontology, with weekly topics and applied discussion/problem-based tasks. This course directly underpins compliance, documentation, and professional conduct in aquatic practice (permits, facility oversight, welfare and client communication within legal boundaries).	B	5	5
"Certificate of Animal Use in Experimental Research", University Medical Research Centre, 30.08.2021 to 10.09.2021, KSE Relevance: I completed legislation and ethics with 3Rs laboratory processing with hygiene and safety and occupational health and safety in animal facilities.	A	9	9
Participation as ADHAM Welfare Committee Member in the Development of National Regulation on Aquatic Experimental Animal Research, Republic of Türkiye, Ministry of Agriculture and Forestry, General Directorate of Fisheries and Aquaculture, April 2025. KSE Relevance: As an ADHAM Welfare Committee member, I contributed to developing national regulations on aquatic experimental animal research. This role involved translating scientific concepts into regulatory language, interpreting legal frameworks for aquatic animal experimentation, and providing technical briefings to Ministry officials on welfare and operational considerations. This experience provided practical insight into governmental regulatory development processes and the codification of welfare principles into enforceable standards for aquatic veterinary practice.	E	5	5
Self-Study: "WOAH Aquatic Animal Health Code", KSE Relevance: I reviewed current WOAH aquatic health standards including notification obligations movement controls surveillance and certification language to align facility and field decisions with international policy. https://sont.woah.org/portal/tool?le=en	D	3	3
Self-Study: "The Aquatic Animal Health England and Wales Regulations 2009", KSE Relevance: I examined legal duties for notification movement control licensing and enforcement relevant to aquatic facilities and trade. https://www.legislation.gov.uk/uksi/2009/463/contents	D	2	2
Self-Study: "Listed Diseases of Fish Molluscs and Crustacea and Their Status GOV.UK guidance", KSE Relevance: I consolidated knowledge of listed pathogens reporting triggers and regulatory status to support compliant decision making. https://www.gov.uk/guidance/report-serious-fish-or-shellfish-diseases	D	1	1
Self-Study: "Regulation EU 2016 429 Animal Health Law", KSE Relevance: I reviewed the EU animal health framework with emphasis on disease prevention surveillance movements and operator responsibilities in aquatic systems. https://eur-lex.europa.eu/eli/reg/2016/429/oj/eng	D	1	1
Credits Claimed for Module 8 [5 minimum credits required]		**30**	**30**

Add rows to table as necessary

KSE Module 9: Principles of Aquatic Animal Welfare List name of CEPD/Class/Article Source, Location and Date	**KSE Source Category (A,B,C,D,E,F)**	**Credits (hrs)**	
		Applicant Claimed	**Mentor Approved**
"Certificate of Animal Use in Experimental Research", University Medical Research Centre, 30.08.2021 to 10.09.2021, KSE Relevance: I completed animal handling techniques anaesthesia and euthanasia humane endpoints and alternative methods with 3Rs all of which underpin welfare conscious work with aquatic species.	A	20	20
CEPD: "First Aid and Rehabilitation in Sea Turtles", 31.03.2022, KSE Relevance: I attended a one hour session on safe capture and handling initial assessment and stabilization transport and referral considerations foundational rehabilitation workflows legal notification points and documentation with emphasis on welfare and ethics in acute care and rehabilitation contexts;	A	1	1
CEPD: "University of Bern – Fish and Amphibians Research @ Unibe (Webinar)", 29–30.11.2021, KSE Relevance: I attended welfare focused sessions on normal anatomy anaesthesia and euthanasia and assessing and alleviating pain in zebrafish and discussed refinement of procedures to minimise harm and improve reproducibility.	A	3	3
CEPD: "RSPCA Focus on Fish practical refinements for fishes in research and testing", 27 February 2025, KSE Relevance: I attended a webinar on practical refinements for fish in research and testing addressing veterinary care housing enrichment and welfare to improve reproducibility and translatability.	A	4	4
CEPD: "Second Symposium on Welfare in Aquaculture (SWELA20)", 26.11.2020, KSE Relevance: I attended a welfare focused online symposium featuring a keynote on indicators of welfare status for cultured fish and talks on operational welfare indicators for salmon lumpfish tilapia and sea bream and sea bass plus innovation in OWI using sensors presented by Prof. Lluis Tort Dr Lars Helge Stien Carolina Gutierrez Rabadan Dr Sonia Rey Planellas Prof. Michalis Pavlidis and Dr Sofia Teixeira; total contact time was approximately two hours and twenty minutes;	A	3	3
Self-Study: "Biology and Physiology of Freshwater Neotropical Fish", Edited by: Bernardo Baldisserotto, Elisabeth Criscuolo Urbinati and J.e.p. Cyrino. Pages: 75-114. KSE Relevance: I studied behavioural aspects of the teleost and how it is intertvined with stress and immune system. Leading to their overall effects on welfare. https://www.sciencedirect.com/book/9780128158722/biology-and-physiology-of-freshwater-neotropical-fish	D	2	2
CEPD: "Aquatic Invertebrate Welfare Opportunities for Improvement (B-1056)", 29.06.2022, KSE Relevance: I attended a welfare webinar addressing ethical frameworks species specific needs refinement opportunities and practical enrichment for invertebrates	A	1	1
CEPD: "From Concepts to Practices Introducing Tilapia Welfare Assessment Tools (B-1093)", 02.07.2025, KSE Relevance: I attended a session introducing welfare assessment tools for tilapia and how to implement them from concept to farm practice	A	1.5	1.5
CEPD: "Raising the Standard Innovation and Certification in Aquatic Animal Welfare B-1096", 24.09.2025, KSE Relevance: I attended a session on advancing aquatic animal welfare through veterinary leadership certification frameworks and recent innovations in welfare assessment and practice with takeaways for implementing and auditing welfare standards	A	1	1
Lecture “Zebrafish as a Model Organism: Housing Conditions and Experimental Applications”, 3 July 2025. KSE Relevance: I delivered a 2-hour lecture covering zebrafish facility operations (system components, water-quality management, biosecurity), husbandry standards across life stages, and common experimental applications (embryo/larval assays, behavioral tracking, dosing/exposure paradigms). The	F	5	5

session emphasized welfare and refinement (handling, anesthesia/euthanasia, endpoints) and linked husbandry parameters to data quality and reproducibility. This teaching activity demonstrates applied competence in translating LSS and husbandry principles into research practice.			
Credits Claimed for Module 9 [5 minimum credits required]		**41.5**	**41.5**

Total KSE Credits Claimed for Certification [minimum 150]:		**409.5**	**409.5**