

Additional Guidelines for Submission of New Residency Programme Applications and the Resident Activity Log Book

These guidelines are based on the ECVPH Bylaw on Residency Training (January 2018 version). The main aim is to facilitate and harmonize the resident and education committee's work and QA system regarding the submission and evaluation of new Standard and Alternative residency programmes (Annex I).

New Residency programme application

- The Standard Residency Programme (SRP) is usually well defined as part of the application and approval of a recognised Residency Training Institute by the ECVPH. It is a requirement of the ECVPH Bylaw (Article 8) that residency candidates enclose the approval documents of the Residency Training Institute as a part of their residency application process. Even though each residency programme can be adapted to the training needs of the applicant, it should still largely follow the approved SRP of the respective institutions. Therefore, when preparing their residency programme, the candidate should seek these documents from their Programme director/ Supervisor so that they can be closely followed and adapted if needed to accommodate candidate's specific circumstances.
- The Alternative Residency Programme's (ARP) main feature is that the candidate is not required to be supervised full-time by the Diplomate throughout the whole duration of the residency, but will only spend 13 months (not necessarily continuously) of their training programme under full-time supervision by the Supervisor. Close supervision during a joint project may count towards part of these 13 months, even if resident and supervisor are not working at the same location. **It is however encouraged that part of the 13 months of direct supervision is spent in the Supervisors' institution as a study stay/ research internship.**
- Article 5 of the ECVPH Bylaw on Programme Director and Resident supervisor states that: 'Each Residency Programme must be supervised by at least one certified Diplomate'. **We strongly recommend, however that one Programme Director and one Resident Supervisor are identified so that each Residency Programme will be supervised by at least two certified Diplomates, of which, at least one, should be of the sub-specialty chosen by the applicant.**
- Residents (together with the supervisors) should thoroughly reflect about the different components of the programme before submitting their residency application to the College. This includes Part I and II, but also the research projects, electives and advanced subjects. All parts must be defined in advance and outlined in the proposed residency programme using the recommended Excel spreadsheet (programme template) available from the ECVPH website. For example, it is not sufficient to state that the research projects will be defined during the course of the residency at a later stage. Changes to the programme are still possible and they are not set in stone, but it is important to set up a plan at the beginning to facilitate evaluation. This is particularly relevant for residents of APRs to ensure that they meet the research requirements of the Curriculum.
- The research projects, electives and advanced subjects (Parts III, IV and V) should either be described in the recommended programme template (preferred), or in the application letter.
- Pre-residency training:
 - o Pre-residency training activities contain elements related to VPH that have been attained by the applicant before the residency training started. However, the pre-residency training

activities can only be accounted for Part I and Part II of the Curriculum, and there should be a limit as to how much they could count towards a total of 105 ECTS. Article 3 (page 14 of the Bylaws) clearly states that 75 ECTS related to Part III (20 ECTS), Part IV (35 ECTS) and Part V (ECTS 20) of the curriculum can only be obtained during the residency and not before. It is the role of the Education Committee (Article 3 of the Bylaw) to verify and approve the applicant's past training activities, and they are primarily meant to give an indication of the applicant's engagement with VPH during their past career. The pre-residency training should therefore be seen as a "visit card" to evaluate eligibility to enter into the residency training. There should be a sufficient amount of activities left in each topic and cluster to fulfil the residency programme within the three (or more) years of training. **For this reason, we recommend that the amount of ECTS that can be accounted for towards the pre-residency training should not exceed one third of the 105 ECTS points in total (i.e. maximum of 35 ECTS), and for a limited number of individual clusters where candidates can evidence they have considerable experience.** Residents are however invited to report on the activity log all additional time spent on each cluster during their residency training even after they have reached the required ECTS to demonstrate active engagement in lifelong learning.

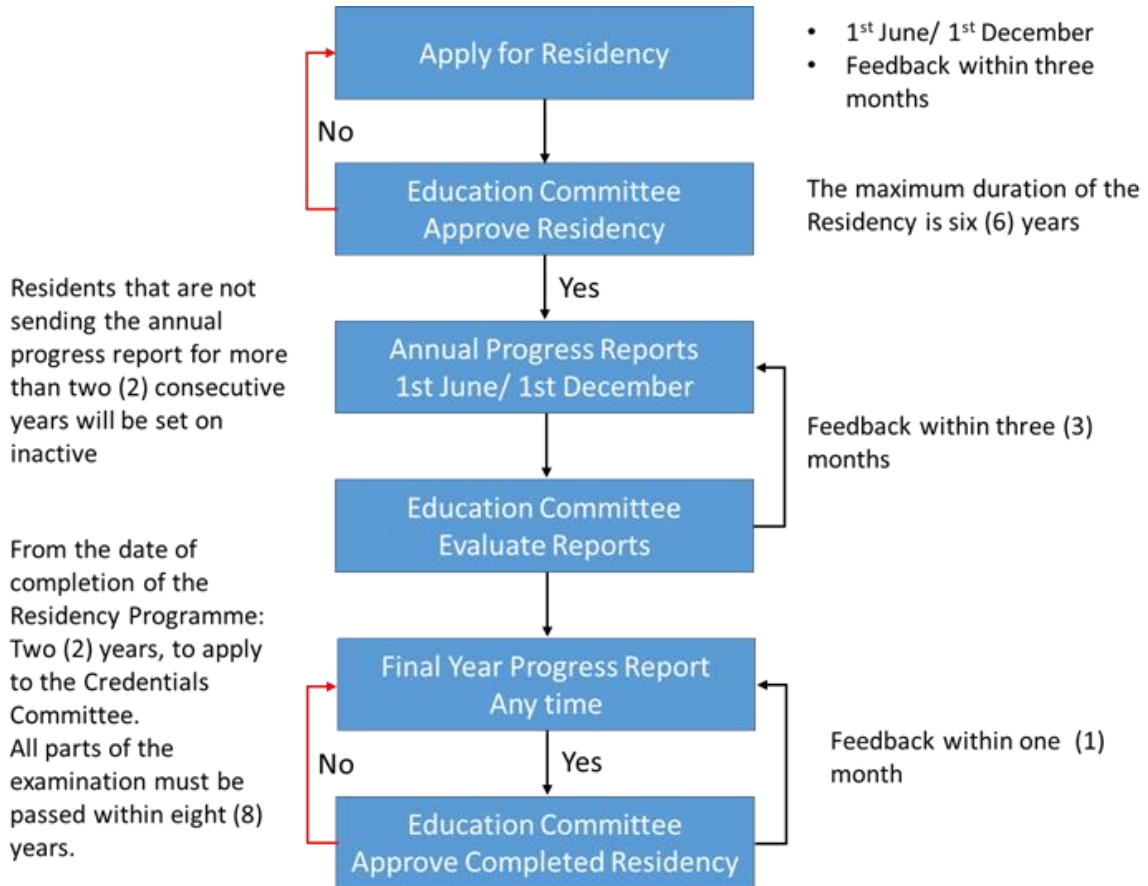
- According to the Bylaw, only activities dated five (5) years back can be accounted for the pre-residency training. There is therefore no need to include activities that are more than five years past the starting date of the residency programme. This also applies for colleagues starting their residency later in their career (hence, more experienced colleagues).
- In addition, the bylaw requires (Article 3) that pre-residency training activities need to be **clearly outlined in the Residency Programme and are subject to approval of the Education Committee of the College.**
- Programme Part I and II:
 - For courses planned during the residency programme, residents would have to explain the content of and the ECTS gathered by the courses. A simple web-link to the course is not deemed enough. ECTS points should be outlined for each proposed course or any other activity in a separate spreadsheet tab (ideally, the provided template should be used).
 - If a resident has reached the maximum number of ECTS for a cluster of the Curriculum, we suggest that any additional work on that topic to be credited in advanced topics (Part II and III), or electives (part V), if and as applicable.
 - Practical activity:
 - Some topics are linked to a practical activity [P]. A list of examples (not exhaustive nor exclusive) for practical activity per topic are given in Annex II of these guidelines.
 - Teaching activities at undergraduate/ postgraduate level can be counted as a practical activity.
 - Taught courses (MSc, postgraduate diploma, PhD) that are listed as practical activity must contain practical aspects.
- Advanced subjects (Part III):
 - The Bylaw define the Advanced Subjects as follows: two topics (modules) from the respective subspecialty and trained to an advanced level.
 - We envisage that the Advanced Subjects should include at least one of the points below:
 - A part of residents' research activities for which a publication is expected.
 - Training of a topic from different perspectives/ angles. For example, the topics should include the academic/ research, regulatory, industrial (economic), and other relevant stakeholders' point of view.
 - It should not only include self-study and/ or taught courses.

- These topics may end up as the candidate's chosen topic for the oral exam.
- Research (Part IV):
 - Thirty-five (35) ECTS are allocated for research projects (very roughly one year of time, or 12 weeks per year). Due to the very diverse background of our residents, it may be challenging for all of them to fulfil this (e.g. residents on ARP that are employed by the government or industry). The number of research projects are not defined in the bylaw. The resident should work on a variety of research topics, if possible. One project could be a systematic review (see also topic B3 of the Core part of the Curriculum). For residents doing a PhD alongside the residency, it is therefore recommended that 1-2 small projects (5 to 10 ECTS in total), apart from the PhD project, is undertaken. If no PhD training is taken alongside the residency, the resident should undertake at least 3-4 different projects.
 - **We strongly recommend that research projects are undertaken with the view of publishing the results on scientific-peer reviewed journals during or by the end of the residency training so they can be included in the list of publications to be presented to the ECVPH Credentials Committee at the end of the residency training.**
- Elective (Part V)
 - Electives are topics **from the other subspecialty** (or Core part of the curriculum related to the other subspecialty) to which the resident should be exposed in addition to the elements listed in Part I and II of the training.
 - It can also cover one of these topics more in-depth. It is encouraged to take at least 3-4 different elective topics (in the bylaw it is defined as “several”).
 - It can include and it is recommended to have externships in other institutions, but this is not compulsory.
 - Examples: internship at international organizations (FAO, WHO, OIE, EFSA), research institutions or national competent authorities.
- What are “critical comments” in the residency programme application?
 - When overall the reviewer is not confident that the applicant will be able to meet the requirements of the bylaw based on the proposed residency programme.
 - When projects, electives, advanced subjects are not defined.
 - When the ECTS points are not indicated in the required sections or are not correctly accounted for.
 - When only pre-residency training ECTS points are accounted for any cluster of the curriculum or too many ECTS points are accounted for (see above).
 - When the ECTS points are not equally distributed between the residency years.
 - When the reviewer feels that the activities and ECTS are not described in an appropriate way, which may lead to insufficient level of training.
- If critical comments are provided, the programme will be sent back to the Chair of the Education Committee and then to the candidate with a detailed feedback for clarification and rectification.

On behalf of the Education Committee
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Annex I:

The New Residency Programme Application Process and the ECVPH Education Committee Quality Assurance System for Residency Training Programmes



Annex II:

Examples for the topics that require some practical work [P]

PART I CORE CURRICULUM		
Topic	Key words	Ideas for practical work
A3 - Population medicine	Concept of population, principles of sampling, causation vs. association, measures of disease frequency such as prevalence and incidence, risk factors and confounding factors, statistical significance versus biological significance, measures of association, 2x2 table analysis, transmission models such as SIR, diagnostic validation, observational study designs	Research project; Teaching including these aspects; Data set analysis;
A4 - Food science	Food chain (from animal production to the final product on the shelf), food safety aspects of animal feeding, food production systems, food technology in relation to PH, food microbiology, food preservation, food matrix, biological and chemical hazards, carryover	Research projects, e.g. in food science laboratories; Taught courses (practical activities); Activities as official veterinarian; Teaching including these aspects;

A5 - Food safety and control	Principles of food safety legislation on international and EU level, responsibility of food business and competent authorities, self-control and Food Safety Management Systems, food inspection, alternative approaches (equivalence), hurdle systems	Taught courses (practical activities); Practical training in food inspections; Teaching including these aspects; Audit activities
A6 - Non-infectious hazards in food	Chemical residues and contaminants in the environment-feed-food chain, biotoxins	Laboratory testing of food/animal samples for chemical hazards; research projects focused on foodborne microbial toxins; risk assessment or systematic review
B1 - Biostatistics	Experimental study design, sampling, types of data (discrete, ordinal, continuous) and choice of appropriate statistical tests, estimation of population parameters, confidence intervals, principles of regression analysis	Taught courses (practical activities) and application through research projects; Hand-on dataset analysis;
B2 - Information systems	Database development and management, scientific literature databases, early warning systems (e.g. Promed, RASFF), information management	Database search as a part of systematic review; Internship at national competent authorities
B3 - Systematic review	Systematic review methodology, question framing, search frame, inclusion and exclusion criteria, publication bias, quality assessment, data collection, evidence synthesis, quantitative summaries (including basic principles of meta-analysis), EFSA guidance document on systematic review	Contribution to a systematic review/meta-analysis; Data set analysis;
B4 - Scientific communication and leadership	Scientific writing, scientific communication, presentation techniques, project management, basic skills in rhetoric, negotiation, management of interpersonal conflicts	Publication writing; Conference contributions; Moderating stakeholder meetings; Research project management; Presentation to a wider community (knowledge exchange)
C2 - Science based policy making	Concepts and role of VPH in one health, eco-health, role of and output from international organisations in the area of food safety, food security, animal health, zoonoses (e.g. WTO, SPS-agreement, WHO, FAO, OIE, Codex Alimentarius, JECFA), precautionary principle, concepts & philosophy of EU legislation, independent scientific assessment (e.g. EFSA and its panels), interoperability and interdisciplinary cooperation, responsibility of the private sector and good practices in all stages of production and supply chains	Internships at international organizations (WHO, FAO, OIE, EFSA); Internship in international department of national veterinary authorities; EU legislation readings
C3 - Applied economics	General concepts for assessing costs and benefit of interventions related to VPH along the food chain, micro vs. macro-economy, disease burden measures (YLL, DALY, QUALY)	Taught courses (practical activities); Data set analysis; Research project related to this topic
C5 - Applied social sciences	Understanding stakeholders and consumer behaviour, communication with media, stakeholders, target-oriented communication (risk managers, media, the public, stakeholders), risk perception, dealing with expert opinion	Moderating stakeholder meetings; Presentation to a wider community (knowledge exchange); Research projects including social science methods (e.g. surveys, participatory epi)

PART II POPULATION MEDICINE		
A1 - Experimental studies	Application case studies from different areas in VPH: research question/hypothesis, study types, study units, outcome, factors/covariates, randomisation, blocking, blinding, sources of bias, assumptions (e.g. independence of observations), data collection, pooled samples, time series data, data coding, data consistency, missing data, limits of detection, limits of quantification, parameter estimation, interpretation and communication of results, good practice guidelines for study conduct and study reporting	Designing and/or conducting a study; Dataset analysis of experimental studies; Taught courses (practical activities); Teaching of the topic;
A2 - Observational studies	Application case studies from different areas in VPH: research question/hypothesis, study types (e.g. randomised clinical trials, clinical epidemiology, case control, nested case control, cohort, cross-sectional, cross-over, intervention study), study units, outcome, factors/covariates, randomisation, blocking, blinding, sources of bias, assumptions (e.g. independence of observations), survival time data, data coding, data consistency, missing data, limits of detection, limits of quantification, parameter estimation, interpretation and communication of results, good practice guidelines for observational studies and validation studies (study conduct and study reporting)	Designing and/or conducting a study; Dataset analysis of observational studies; Taught courses (practical activities); Teaching of the topic;
A3 - Risk assessment methodology	Application case studies from different areas in VPH: risk question, scenario models, modular models, scope of models, qualitative vs. quantitative risk models, deterministic vs. stochastic (probabilistic) models, variability & uncertainty, deriving model parameters from data, model assumptions, default parameter values, model documentation, interpretation and communication of results under uncertainties	Performing a risk assessment or part of it; Taught courses (practical activities); Teaching of the topic;
A4 - Mathematical models in PM	Application case studies (focus on PM): research or management question, conceptual model, modelling approaches, SIR, differential equations, models for transmission and spread and control of infectious agents	Research project (development, adaption, use of a mathematical model); Taught courses (practical activities);
B1 - Disease control	Concepts, principles and applications of disease control programmes, good hygiene practices in primary production, biosecurity, sanitation and disinfection procedures, programmes on regional, national and herd-level, control of vector-borne diseases, integrated control programmes, success monitoring, organisation and responsibilities, herd health programmes	Internship at national veterinary office; Outbreak investigation (real or simulated); Research project on disease surveillance and control; Teaching of the topic;
PART II FOOD SCIENCE		
A2 - Detection of microorganisms in the food chain	Examination, diagnostics and monitoring of microbial contamination of food of animal origin or related to animals, bacterial, viral and parasitic aetiology, sampling, testing and VPH relevance of contamination in water systems and plants, classical food microbiology, relevance of and systems for typing methods, microbial ecology of foodborne pathogens and spoilage microorganisms	Laboratory testing of food/animal samples for biological hazard and spoilage microorganisms using conventional and molecular methods; Data set analysis; Practical teaching of the topic;
B2 - Food safety risk analysis	Codex risk analysis principles and terminology, microbiological predictive modelling, ALOP principle, concept FSO, PC, PO	Taught courses (practical activities); Teaching of the topic;

		Research project in predictive modelling;
C1 - Food quality control	Good Practices for quality and safety management and control along the food chain (feed, pre-harvest, slaughter hygiene, postharvest), TQM, GMP, HACCP, relevant ISO Standards, auditing, meat quality attributes including biochemical and sensorial, basic aspects of meat biochemistry, factors affecting meat/milk/egg quality	AM and PM inspection in abattoirs; FCI analysis; Food industry audits; Laboratory food testing for quality attributes; Taught courses (practical activities);
C2 - Food hygiene and technology	Basics of food technology in view of food quality, hygiene and safety, preservation techniques, packaging, modified atmosphere, curing, fermentation, heat treatment, irradiation, antimicrobial treatment, cold preservation, curing, fermentation, high pressure, other emerging food preservation and sanitation methods, post mortem biochemistry and factors affecting meat quality characteristics, meat quality attributes including biochemical and sensorial	Practical teaching of the topic; Study stays in food industry; Research project in this area; Taught courses (practical activities); Teaching of the topic;
D3 - Mathematical models in Food safety	Application case studies (focus on FS): research or management question, conceptual model, predictive microbiology, shelf life, inactivation, dose-response models for hazard characterisation, compartmental models (toxicokinetics) (topics of D4 may be covered in other clusters such as B2)	Research project (development, adaption, use of a mathematical model); Taught courses (practical activities); Teaching of the topic;