



## ARS for Master in Veterinary Medical Sciences (Aquatic Medicine and Management)

### **Graduate attributes**

*The graduate should have the ability for:*

- (1) Perfect application of scientific research basics and methodologies, and using its varied tools.
- (2) Application and use of laboratory investigations in Aquatic Medicine and Management (biochemical, hematological, microbial, immunological, pathological and clinical investigation).
- (3) Application of gained specialized knowledge and integrating them with the relevant knowledge in Aquatic Medicine and Management.
- (4) Awareness with ongoing problems and recent visions in field of fish diseases.
- (5) Identification of professional problems and suggesting solutions.
- (6) Mastering the proper scope of a rate specialized professional skills, and using appropriate technological means to serve the professional practice.
- (7) Effective communication and leading work team.
- (8) Decision making under different professional situations.
- (9) Employ available resources efficiently.
- (10) Awareness with his role in society development and community preservation in the light of global and regional variations.
- (11) Reflection of the commitment to act with integrity, credibility and the rules of profession.
- (12) Academic and professional self- development and ability for life-long learning and progress.

### **المقررات التي تحقق المعايير الأكاديمية للبرنامج**

Code	Name
-	Aquatic Medicine and Management – basic course
-	Research Methodology
612	General histology
621	Physiology of endocrine glands & reproduction in mammals
623	Fish physiology
638	Fish biochemistry
651	Farm animals and fish nutrition
665	Fish pathology
672	Bacteriology (general)
673	Bacteriology (special)
674	Immunology (advanced)
676	Microbiology of fish
680	General virology
681	Special virology
682	Viral immunology



## مقارنة ما يقدمه البرنامج من نتائج تعليمية مستهدفة مع المعايير المرجعية القياسية

### A) Knowledge and understanding

Adopted ARS		NARS
1)	<i>By the end of this program the graduate should understand and accommodate the following:</i>	<i>By the end of this program the graduate should understand and accommodate the following:</i>
2)	Basic principles of diagnosis and treatment of infectious and non-infectious diseases of fish.	Theories and principles in the field of specialization and related fields.
3)	General rules for supplying fish fit for human consumption.	Mutual effect between professional practice and its impact on environment
4)	Application of his knowledge of aquatic medicine research methods by evaluating the utility of those techniques to specific research question about diagnosis of certain diseases	Scientific progress in the field of specialization
5)	Applying his knowledge and understanding of pathogenesis of bacterial, viral, mycotic and parasitic affections in fish to the critical analysis and discussion of the scientific literature.	Legal and ethical basics in professional practice in the field of specialization
6)	Health and safety risk assessments for the veterinary aquatic laboratory.	Principles and basics of quality assurance in the area of specialization
7)	Principles and ethics of aquatic scientific research.	Basics and ethics of scientific research

### B) Intellectual skills

Adopted ARS		NARS
	<i>By the end of this program the graduate should understand and accommodate the following:</i>	<i>By the end of this program the graduate should understand and accommodate the following:</i>
1)	Integrating the results of history, clinical and laboratory test findings into a meaningful diagnostic formulation	Analysis and judgment of information in the field of specialization and analog to solve problems.
2)	Critical evaluation of his own research data and develop new approach to solve their research questions.	Solving professional problems even in scarcity of data.
3)	Development of creative approaches to diagnose aquatic diseases in the laboratory.	Relating between different knowledge to solve professional problems.
4)	Identification, summarizing and evaluating prior researches finding in aquatic medicine and aquatic infectious disease.	Preparing research plan in specialization and/or writing scientific article on a research problem.
5)	Comprehending areas where further researches necessary and be aware of any which would be beyond current ethical cods.	Risk-assessment of professional practices in specialization.
6)	Development of plans to improve performance in	Planning for improvement of

	laboratory practice with automation.	professional performance.
7)	Using appropriate intellectual strategy to deal with laboratory diagnostic problems.	Taking professional decisions in a variety of professional contexts.

### C) Professional and practical skills

Adopted ARS		NARS
1)	<i>By the end of this program the graduate should understand and accommodate the following:</i>	<i>By the end of this program the graduate should understand and accommodate the following:</i>
2)	Using of recent techniques and tools necessary to diagnose bacterial, viral, parasitic and non-infectious diseases in aquatic organisms	Mastering basic and recent professional skills in the field of specialization
3)	Application of the principles of good experimental design and analysis to their own research project reaching a conclusive report about aquatic problems and possible solutions	Writing and evaluating professional reports.
4)	Planning a research project in the field of aquatic medicine with a consideration to the technical, ethical and safety issues and associated costs.	Evaluating existing materials and methods in the area of specialization.
5)	Performing essential laboratory skills that underpin techniques associated with sampling, microbial isolation on susceptible host systems and different techniques for pathogen identification	

### D) General and transferable skill

Adopted ARS		NARS
	<i>By the end of this program the graduate should understand and accommodate the following:</i>	<i>By the end of this program the graduate should understand and accommodate the following:</i>
1)	Communicating effectively with teaching staff, colleagues and the community.	Effective communication.
2)	Using information technology in scientific research and publications.	Utilizing information technology to serve development of professional practice.
3)	Demonstrating appropriate attitude towards teaching staff and colleagues.	Self-assessment and determination of personal educational needs.
4)	Identifying and use different sources of information and knowledge.	Using different resources to obtain knowledge and information.
5)	Using appropriate attitude and rules towards teaching staff and colleagues and use evidence based evaluations.	Establishing rules and indicators for assessment of the performance of others.
6)	Respecting the importance of team work.	Team working and leading a team in familiar

		professional contexts.
7)	Good control of timing.	Efficient time management.
8)	Performing continuous self-learning.	Self and continuous learning.

