



ARS for PhD in Veterinary Medical Sciences (Pathology)

1) Graduate attributes

The graduate should have the ability for:

- 1) Mastering the basics and methodologies of scientific research in Pathology for better diagnosis of veterinary diseases.
- 2) Performing continuous effort to add knowledge about diagnosis of bacterial, viral and parasitic diseases.
- 3) Analysis and criticism of macroscopical and microscopical findings concerning large animal, poultry or fish affections.
- 4) Integrating data collected from farms with related laboratory findings to reach the correct diagnosis of cause of disease.
- 5) Showing deep awareness with the ongoing pathological problems and modern theories in diagnosing infectious and non-infectious diseases.
- 6) Identifying the main causes of animal infections and suggesting the appropriate methods of animal protection.
- 7) Mastering of a wide range of professional skills in pathology laboratory and modern pathological techniques performed for measuring mechanism of action of pathogenic and non-pathogenic insults.
- 8) Acquiring trends towards developing modern methods and tools in diagnostic pathology.
- 9) Using appropriate technological means including molecular pathology, IHC, ISH to serve professional practice.
- 10) Communicating effectively with, pathologists, students and colleagues and leading work team through professional scale.
- 11) Making decision in different professional situations especially under field conditions to deal with epidemic issues.
- 12) Using of the available resources efficiently in the development of new techniques and work to find new resources.
- 13) Being aware with his role in society development and community preservation from toxicants and animal pathogens.
- 14) Acting with integrity, credibility and according to the rules of profession.
- 15) Realizing the importance of self and life-long learning and progress.

المقررات التي تحقق المعايير الأكاديمية للبرنامج

Code	Name
612	General histology
619	Avian histology
620	Circulatory and immune systems
649	Animal nutrition (advanced)
650	Feed stuffs (components and additives)
669	Clinical pathology (advanced)
740	General toxicology
741	Environmental toxicology
761	Bacterial diseases of poultry
762	Viral diseases of poultry
763	Mycotic diseases of poultry
764	Parasitic diseases of poultry
765	Nutritional deficiency diseases
811	Microbial aquatic diseases (specific courses)
812	Parasitic aquatic diseases (specific courses)
813	Non-infectious aquatic diseases (specific courses)
730	Cattle infectious diseases
731	Sheep and goat infectious diseases
732	Camel infectious diseases
733	Equine infectious diseases
734	Pet animal infectious diseases

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

A) Knowledge and understanding

Adopted ARS		NARS (PhD)
	<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)	Recent theories, principles and knowledge in the field of pathology and related fields	Recent theories, principles and knowledge in the field of specialization and related areas
2)	Principles methodologies and ethics of scientific research in the field of pathology	Basics, methodologies and ethics of scientific research and its different tools
3)	Legal and ethical principles of pathological techniques	Legal and ethical principles of professional practice in the area of specialization
4)	Principles and the basics of quality assurance in laboratory examination of different pathogens	Principles and the basics of quality assurance in the area of professional

		practice in the field of specialization
5)	Awareness with the effect of pathological examination on environment	Awareness with the effect of professional practice on the environment and methods of its maintain and development

B) Intellectual skills

Adopted ARS		NARS (PhD)
	<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)	Analyzing and evaluating information about the pathological picture of diseases and their causative agents	Analyzing and evaluating information in the field of specialization and the eliciting from them
2)	Solving pathological problems using available macro- and microscopical findings	Solving professional problems using available data
3)	Performing scientific research that can give significant impact on the diagnosis of animal diseases	Conducting scientific research studies that add to knowledge
4)	Formulating scientific papers in Pathology and discussing different findings with other researchers	Formulating scientific papers
5)	Risk-assessment of poisons, pathogens and nutritional causes of diseases	Risk-assessment in the field of specialization
6)	Planning to enhance the performance in the diagnosis of animal affections.	Planning to enhance the performance in field of specialization
7)	Making professional decisions about the pathogenesis, PM lesions and microscopical and ultrastructural findings	Making professional decisions under different professional contexts
8)	Trying new techniques for detection of fine pathological alterations	Creation and innovative in the area of specialization
9)	Dialogue and discussion based on microscopical evidences and proofs	Dialogue and discussion based on evidences and proofs

C) Professional and practical skills

Adopted ARS		NARS (PhD)
	<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)	Mastering basic and modern professional skills in diagnosis of reproductive, toxicological, parasitic, microbial and nutritional diseases including case history, recording clinical signs, PM lesions, and advanced laboratory techniques	Mastering basic and modern professional skills in the area of specialization

2)	Writing and evaluating professional pathological reports involving the effect of pathogens on different body systems	Writing and evaluating professional reports
3)	Evaluating and modernizing methods of staining and processing of different tissues for pathological examination	Evaluating and modernizing methods and tools in the area of specialization
4)	Using modern technological means to serve diagnosis and control of animal outbreaks	Using modern technological means to serve professional practice
5)	Planning for the improvement of veterinary medicine by applying recent molecular techniques in pathology, and developing performance of others	Planning for the improvement of professional practice and developing performance of others

D) General and transferable skill

Adopted ARS		NARS (PhD)
	<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 pathologists, other health professionals, and health related agencies.	Effective communication
2)	Using the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.	Utilizing information technology to serve development of professional practice
3)	Presenting information clearly in written, electronic and oral forms	Teaching others and evaluating their performance
4)	Establishment of life-long self-learning required for continuous professional development.	Self-assessment and continuous learning
5)	Using different resources to obtain knowledge and information	Using different resources to obtain knowledge and information
6)	Team working and leading a team in familiar professional contexts	Team working and leading a team in familiar professional contexts
7)	Management of time and open discussions in the professional field	Management of scientific meetings with the ability to manage time efficiently