





The World Organization for Animal Health (OIE) Veterinary Education Twinning Program between the Royal Veterinary College

(RVC) and the Jordan University of Science and Technology (JUST)

Faculty of Veterinary Medicine

VETERINARY SKILLS LOGBOOK

Introduction

- ❖ Developing Day 1 competences and veterinary skills logbook for students graduating from JUST is one of the key objectives of the World Organization for Animal Health (OIE) twinning program between the Royal veterinary college (RVC) UK and the faculty of veterinary medicine at JUST, Jordan, <https://rvcjustoietwinning.wordpress.com>.
- ❖ The logbook is based on Day 1 competences that are expected from a DVM graduate from JUST and is mapped to the OIE and The European Association of Establishments for Veterinary Education (EAEVE) day 1 competence. The first draft of the logbook is complete.
- ❖ The expected level of achievement of these skills are divided into three categories as follow:
 - Category 1. Student is expected to have performed the skill him/herself
 - Category 2. Student is expected to have observed the skill performed by faculty instructors
 - Category 3. Student is expected to have knowledge of the skill
- ❖ The veterinary skills logbook will be administered to all veterinary students once they get in the Faculty of Veterinary Medicine / Jordan University of Science and Technology.
- ❖ Students are expected to complete the logbook as they progress through the Bachelor of Veterinary Medicine program.
- ❖ The logbook has a column that shows the assessment method for each skill and the course (s) where each skill might show up in the curriculum. An additional column for instructor signature for each skill is also included.
- ❖ A tutor signature is compulsory to complete the logbook.
- ❖ At the end of the final year, students are expected to submit the completed logbook to the faculty administration before their graduation.

Why it is important:

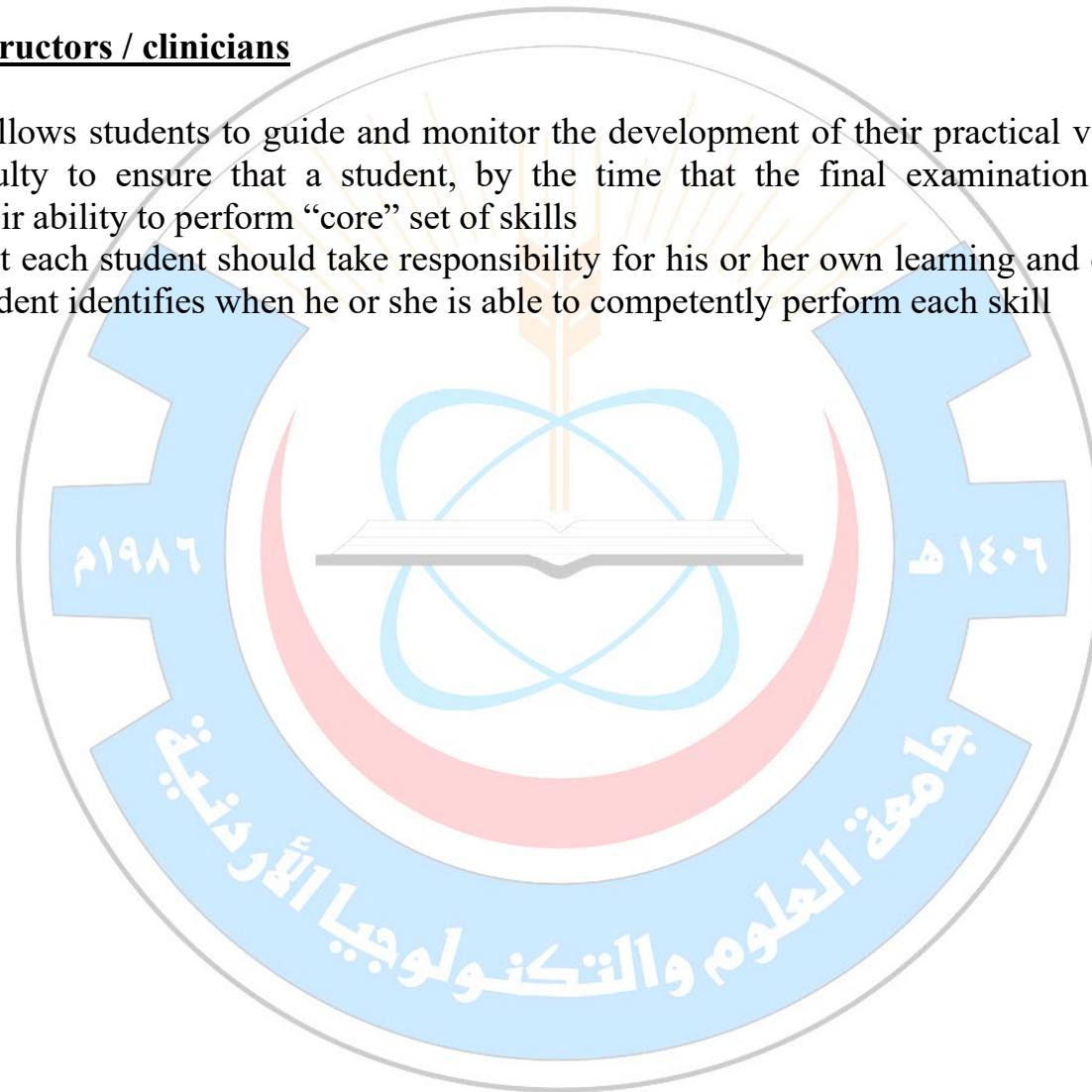
- ❖ These sets of skills are a template for your learning - a map for you to identify the skills that you have mastered and the skills you are yet to master. The lists of skills are what the staff of the Faculty of Veterinary Medicine at JUST consider the minimum that a new graduate of this faculty must have.
- ❖ The lists of skills are also aligned with the expectations of the veterinary profession and the registration bodies that grant accreditation to our faculty. These accreditation bodies require that:
 - All veterinary graduates must achieve a minimum standard of knowledge, skills and professional behavior.
 - The set of knowledge, skills and professional behavior meet those laid down by the veterinary profession.
 - The staff of the faculty, through its program, requires students to prove that they have met the specified standards.

Instructions to students

- ❖ In each section, there is a list of clinical skills that you should address during your bachelor of veterinary medicine (BVM) program.
- ❖ The expected level of achievement of these skills can be divided into three categories as follow:
 - Category 1. You are expected to have performed the skill yourself
 - Category 2. You are expected to have observed the skill performed by others
 - Category 3. You are expected to have knowledge of the skill
- ❖ The column “method of skill assessment” means how your instructor would make sure you have achieved the expected level for each skill (powerpoints, practical classes, clinic rotations, oral or written exams, ...etc)

Instructions to instructors / clinicians

- ❖ This check list allows students to guide and monitor the development of their practical veterinary competence and for the faculty to ensure that a student, by the time that the final examination process is due, has demonstrated their ability to perform “core” set of skills
- ❖ It is intended that each student should take responsibility for his or her own learning and development of skills and that each student identifies when he or she is able to competently perform each skill





Category 1

Skills you need to perform

#	Skills you need to perform	Course(s)	Method of skill assessment	Instructor signature	Date
1	Identification of local and common horse breeds		End of course exam (images)		
2	Identification of local and common cattle breeds		End of course exam (images)		
3	Identification of local and common sheep breeds		End of course exam (images)		
4	Identification of local and common goat breeds		End of course exam (images)		
5	Identification of local and common dogs breeds		End of course exam(images)		
6	Identification of local and common cat breeds		End of course exam (images)		
7	Assessment of normal and abnormal behavior (dogs)		Clinic		
8	Assessment of normal and abnormal behavior (cats)		Clinic		
9	Assessment of normal & abnormal behavior (horses)		Clinic		
10	Assessment of normal & abnormal behavior (cattle)		Clinic		
11	Assessment of normal & abnormal behavior (sheep)		Clinic		
12	Assessment of normal & abnormal behavior (goat)		Clinic		
13	Animal handling / restraint (horses)		Practical exam		
14	Animal handling / restraint (cattle)		Practical exam		
15	Animal handling / restraint (sheep and goats)		Practical exam		
16	Animal handling / restraint (dogs)		Practical exam		
17	Animal handling / restraint (cats)		Practical exam		
18	Recording of anamnesis		Practical exam & clinic		
19	Age determination based on dentition (horses)		Practical exam & images		
20	Age determination based on dentition (ruminants)		Practical exam & images		
21	Identification of body markings (horses)		Practical exam & images		
22	Obtaining and recording history from owners		Clinic		
23	General clinical exam of body systems (horses)		Clinic		
24	General clinical exam of body systems (cattle)		Clinic		
25	General clinical exam of body systems (sheep, goat)		Clinic		
26	General clinical exam of body systems (dogs, cats)		Clinic		

#	Skills you need to perform	Course(s)	Method of skill assessment	Instructor signature	Date
27	Recording master problem list from history and general clinical examination findings		Written exam from clinical case scenario		
28	Recording Differential diagnosis list from history and general clinical examination findings		Written exam (clinical case scenario)		
29	Recording diagnostic plan based on history and general clinical examination findings		Written exam (clinical case scenario)		
30	Recording treatment plan based on history and general clinical examination findings		Written exam (clinical case scenario)		
31	Recording prognosis based on history and general clinical examination findings		Written exam (clinical case scenario)		
32	Discussion of prognosis of clinical cases with owners		Clinic		
33	Compilation and Filling Medical records		Clinic		
34	Collection of blood (horses)		Clinic		
35	Collection of blood (cattle)		Clinic		
36	Collection of blood (sheep)		Clinic		
37	Collection of blood (goat)		Clinic		
38	Collection of blood (dogs)		Clinic		
39	Collection of blood (cats)		Clinic		
40	Topical, oral, ear & eye drug administration (dogs, cats)		Clinic		
41	Topical, oral & eye drug administration (horses, cattle, sheep, goat)		Practical exam & clinic		
42	Subcutaneous injection (horses)		Practical exam & clinic		
43	Subcutaneous injection (cattle / sheep / goat)		Practical exam and clinic		
44	Intramuscular injection (horses)		Practical exam and clinic		
45	Intramuscular injection (cattle / sheep / goat)		Practical exam and clinic		
46	Intravenous injection (horses)		Practical exam and clinic		
47	Intravenous injection (cattle / sheep / goat)		Practical exam and clinic		

#	Skills you need to perform	Course(s)	Method of skill assessment	Instructor signature	Date
48	Intravenous injection (dogs / cats)		Practical exam and clinic		
49	Insertion of a venous catheter (horses)		Practical exam and clinic		
50	Insertion of a venous catheter (cattle / sheep / goat)		Skills lab, practical exam, clinic		
51	Insertion of a venous catheter (Dogs / cats)		Skills lab, practical exam, clinic		
52	Rectal examination (cattle)		Skills lab, practical exam, clinic		
53	Rectal examination (horses)		Practical exam & clinic		
54	Ultrasound abdomen (cattle / sheep / goat)		Practical exam & clinic		
55	Ultrasound abdomen (dogs / cats)		Practical exam & clinic		
56	Skin scraping		Practical exam & clinic		
57	Examination of mammary glands (cattle/ sheep/ goat)		Practical exam & clinic		
58	Examination of mammary glands (dogs / cats)		Practical exam & clinic		
59	Collecting milk samples for (bacteriological) examination (cattle / sheep / goat))		Practical exam & clinic		
60	Macroscopic assessment of milk		Practical exam & clinic		
61	Prescription writing		Practical exam & clinic		
62	Cleaning and disinfection of clinic / ambulatory clinic vehicle / veterinary instruments & equipment		Skills lab, practical exam, clinic		
63	Identification of feeds and feedstuff		Skills lab, practical exam, clinic		
64	Evaluation of diets for companion animals		Skills lab, practical exam		
65	Evaluation of diets for food - producing animals		Skills lab, practical exam		
66	Monitoring, maintenance and recovery of anesthesia (horses, cattle, sheep, goat, dogs and cats)		Skills lab, practical exam		
67	Local anesthetic techniques (cattle, sheep, goat, horses)		Practical exam, clinic		

#	Skills you need to perform	Course(s)	Method of skill assessment	Instructor signature	Date
68	Animal position and restraint for x-ray (dogs, cat)		Skills lab		
69	Biopsy, aspiration		Skills lab, practical exam, clinic		
70	Biopsy, incision / excision		Skills lab		
71	Preparation of patient for surgery and preparation of the surgical area		Skills lab		
72	Applying bandages		Skills lab, practical exam, clinic		
73	External examination of urinary tract and reproductive organs		Skills lab, practical exam, clinic		
74	Pregnancy diagnosis / fertility diagnosis - manual		Practical exam, clinic		
75	Vaginal swab (dogs)		Practical exam, clinic		
76	Gross urine examination		Skills lab, practical exam, clinic		
77	Use of urinary diagnostic strips		Skills lab		
78	Preparation and staining of blood films		Skills lab		
79	Bacterial gram staining		Skills lab, practical exam, clinic		



Category 2

**Skills seen performed by instructors /
clinicians**

#	Skills seen performed by instructors / clinicians	Course(s)	Method of skill assessment	Instructor signature	Date
1	Obtaining intra-peritoneal fluid (horses)		MC/Assay Q		
2	Obtaining intra-peritoneal fluid (cattle / sheep / goat)		MC/Assay Q		
3	Endoscopy of upper airways		MC/Assay Q		
4	Taking & interpretation of ECG		MC/Assay Q		
5	Insertion of an esophageal tube (cattle)		MC/Assay Q		
6	Insertion of stomach tube (horses)		MC/Assay Q		
7	Regular dental maintenance (horses)		MC/Assay Q		
8	Insertion of a bolus (cattle)		MC/Assay Q		
9	Ultrasound abdomen (horses)		MC/Assay Q		
10	Bladder catheterization (mares)		MC/Assay Q		
11	Bladder catheterization (cows)		MC/Assay Q		
12	Cystocentesis (dogs / cats)		MC/Assay Q		
13	Collecting milk samples for bacterial exam (dog)		MC/Assay Q		
14	Application of eye lavage system (horses)		MC/Assay Q		
15	Rinsing of the eye (horses)		MC/Assay Q		
16	Sterilization of Surgical Instruments		MC/Assay Q		
17	Assessment of feeding/feeding schedules		MC/Assay Q		
18	Newborn care and management (foals)		MC/Assay Q		
19	Newborn care and management (calves)		MC/Assay Q		
20	Newborn care and management (lambs)		MC/Assay Q		
21	Newborn care and management (kids)		MC/Assay Q		
22	Newborn care and management (puppies)		MC/Assay Q		
23	Newborn care and management (Kittens)		MC/Assay Q		
24	Pre-and post-milking routine for dairy cows		MC/Assay Q		
25	Reading and assessment of feed tag		MC/Assay Q		
26	Formulation and preparation of diets (horses)		MC/Assay Q		

#	Skills seen performed by instructors / clinicians	Course(s)	Method of skill assessment	Instructor signature	Date
27	Formulation and preparation of diets (cattle)		MC/Assay Q		
28	Formulation and preparation of diets (sheep / goats)		MC/Assay Q		
29	Insertion of endotracheal tube		MC/Assay Q		
30	Anesthesia – inhalation		MC/Assay Q		
31	Euthanasia		MC/Assay Q		
32	Performing limb x-ray imaging (horses)		MC/Assay Q		
33	Performing limb and body x-ray imaging (dogs / cats)		MC/Assay Q		
34	Developing x-ray films		MC/Assay Q		
35	Assessment of quality and interpretation of radiographs		MC/Assay Q		
36	Interpretation of ultrasound images		MC/Assay Q		
37	Choosing appropriate Ultrasound probe		MC/Assay Q		
38	Wound reconstruction		MC/Assay Q		
39	Wound treatment/rinsing		MC/Assay Q		
40	Wound closure primary/secondary		MC/Assay Q		
41	Abscess drainage		MC/Assay Q		
42	Tracheotomy		MC/Assay Q		
43	Laparotomy / celiotomy		MC/Assay Q		
44	Abomasal displacement surgery		MC/Assay Q		
45	Rumenotomy		MC/Assay Q		
46	Rolling a cow		MC/Assay Q		
47	Umbilical hernia treatment		MC/Assay Q		
48	Rectal prolapse repair		MC/Assay Q		
49	Ovario-hysterectomy (dogs, cats)		MC/Assay Q		

#	Skills seen performed by instructors / clinicians	Course(s)	Method of skill assessment	Instructor signature	Date
50	Castration (stallion)		MC/Assay Q		
51	Castration (bull)		MC/Assay Q		
52	Castration (ram)		MC/Assay Q		
53	Castration (buck)		MC/Assay Q		
54	Castration (dog)		MC/Assay Q		
55	Castration (cat)		MC/Assay Q		
56	Caesarian section (cow, sheep, goat)		MC/Assay Q		
57	Skin biopsy (cow, sheep, goat, horse)		MC/Assay Q		
58	Skin biopsy (dog, cats)		MC/Assay Q		
59	Treatment of mammary gland injuries (cattle, sheep, goat)		MC/Assay Q		
60	Treatment of teat obstruction (cow, sheep, goat)		MC/Assay Q		
61	Ear ablation		MC/Assay Q		
62	Eyeball removal		MC/Assay Q		
63	Eyelid surgery		MC/Assay Q		
64	Removal of the third eyelid		MC/Assay Q		
65	Tail amputation (dogs)		MC/Assay Q		
66	Nail trimming (dogs, cats)		MC/Assay Q		
67	Claw (tip) amputation / toe amputation (dog)		MC/Assay Q		
68	Preventive hoof / claw trimming		MC/Assay Q		
69	Curative hoof / claw trimming		MC/Assay Q		
70	Application of (rigid immobilizing) bandage		MC/Assay Q		
71	Fracture and joint treatment (dogs, cats, horses)		MC/Assay Q		

#	Skills seen performed by instructors / clinicians	Course(s)	Method of skill assessment	Instructor signature	Date
72	Rinsing of joint/tendon sheath (horses)		MC/Assay Q		
73	Arthrocentesis		MC/Assay Q		
74	Cornel trauma treatment		MC/Assay Q		
75	Cystotomy		MC/Assay Q		
76	Debridement/wound cleaning		MC/Assay Q		
77	Drainage		MC/Assay Q		
78	Hernia repair		MC/Assay Q		
79	Dewclaw amputation --- puppy		MC/Assay Q		
80	Subcutaneous implant removal		MC/Assay Q		
81	Lymph node removal		MC/Assay Q		
82	Mastectomy		MC/Assay Q		
83	Sinus trephination		MC/Assay Q		
84	Splenectomy		MC/Assay Q		
85	Horse shoe removal		MC/Assay Q		
86	Regional nerve block		MC/Assay Q		
87	Lameness evaluation (horse)		MC/Assay Q		
88	Dehorning young ruminant		MC/Assay Q		
89	Dehorning adult ruminant		MC/Assay Q		
90	Fertility diagnosis - ultrasound		MC/Assay Q		
91	Pregnancy diagnosis - ultrasound		MC/Assay Q		
92	Collecting and processing of semen (stallion)		MC/Assay Q		
93	Collecting and processing of semen (bull)		MC/Assay Q		
94	Collecting and processing of semen (ram/buck)		MC/Assay Q		

#	Skills seen performed by instructors / clinicians	Course(s)	Method of skill assessment	Instructor signature	Date
95	Collecting and processing of semen (dog)		MC/Assay Q		
96	Artificial insemination (mare)		MC/Assay Q		
97	Artificial insemination (cow)		MC/Assay Q		
98	Uterine swab (horses)		MC/Assay Q		
99	Uterine biopsy (horses)		MC/Assay Q		
100	Intra-uterine treatment (horses, cows)		MC/Assay Q		
101	Obstetrical examination		MC/Assay Q		
102	Fetal forced extraction		MC/Assay Q		
103	Repositioning of abnormal fetal presentation, position and posture		MC/Assay Q		
104	Reposition of uterine torsion (cow, horses)		MC/Assay Q		
105	Fetotomy - total (large animals)		MC/Assay Q		
106	Fetotomy - partial (large animals)		MC/Assay Q		
107	Prostate examination (dogs)		MC/Assay Q		
108	Ultrasound of feto-Placental membranes (mare)		MC/Assay Q		
109	Postpartum placental examination		MC/Assay Q		
110	Breeding soundness examination (stallion)		MC/Assay Q		
111	Breeding soundness examination (bull)		MC/Assay Q		
112	Breeding soundness examination (ram/ buck)		MC/Assay Q		
113	Breeding soundness examination (dog)		MC/Assay Q		
114	Uterine prolapse treatment (cow, sheep, goat)		MC/Assay Q		
115	Anal gland examination / evacuation (dogs)		MC/Assay Q		
116	Caslick's operation (horses)		MC/Assay Q		

#	Skills seen performed by instructors / clinicians	Course(s)	Method of skill assessment	Instructor signature	Date
117	Interpretation of urinalysis		MC/Assay Q		
118	Make and assess a urinary sediment sample		MC/Assay Q		
119	Hematocrit determination		MC/Assay Q		
120	Hematological examination		MC/Assay Q		
121	Interpretation of Lab assays of blood		MC/Assay Q		
122	Fecal flotation examination		MC/Assay Q		
123	Baermann method (lungworm larvae)		MC/Assay Q		
124	Skin Cytology - Sticky tape method(fungal/Parasitology)		MC/Assay Q		
125	Cytology - make and assess microscopic specimen		MC/Assay Q		
126	Using an 'in-house' fungal culture (skin/hair)		MC/Assay Q		
127	Determine milk cell count		MC/Assay Q		
128	Examination of animal origin products (meat, fish, eggs)		MC/Assay Q		
129	Ante-mortem examination		MC/Assay Q		
130	Post-mortem examination		MC/Assay Q		
131	Animal welfare at slaughter		MC/Assay Q		
132	Obtain complete case history from owner (poultry)		Clinic		
133	Describe clinical signs on examined birds		Clinic		
134	Take blood samples from chicken for serology		Clinic		
135	Sampling chicken for bacterial and virus isolation		Clinic		
136	Sampling chicken for histopathological examination		Clinic		
137	Humane euthanasia of bird		Clinic		
138	Perform bird necropsy and evaluate the integrity of all systems		Clinic		



Category 3

**Skills you need to have knowledge about
them**

#	Skills you need to have knowledge about them	Course(s)	Method of skill assessment	Instructor signature	Date
1	Blood transfusion (small / large animals)		MC/Assay Q		
2	Broncho-alveolar lavage (horse)		MC/Assay Q		
3	Esophageal obstruction treatment		MC/Assay Q		
4	Collection of stomach fluid (horses)		MC/Assay Q		
5	Collection of ruminal fluid (cattle)		MC/Assay Q		
6	Ruminal trocarization (cattle / sheep / goat)		MC/Assay Q		
7	Bladder catheterization – male (horses)		MC/Assay Q		
8	Bladder catheterization – male (dogs)		MC/Assay Q		
9	Cystoscopy		MC/Assay Q		
10	Collection of cerebro-spinal fluid		MC/Assay Q		
11	Good laboratory practice		MC/Assay Q		
12	Good veterinary practice		MC/Assay Q		
13	Working with literature retrieval systems		MC/Assay Q		
14	Animal selection for further examination (food animals)		MC/Assay Q		
15	Assessment of housing (horses)		MC/Assay Q		
16	Assessment of housing (cattle)		MC/Assay Q		
17	Assessment of housing (sheep / goat)		MC/Assay Q		
18	Indications for periodical site visits to dairy farms		MC/Assay Q		
19	Farm biosecurity management		MC/Assay Q		
20	Vaccines programs (horses)		MC/Assay Q		
21	Vaccines programs (cattle)		MC/Assay Q		
22	Vaccines programs (sheep and goat)		MC/Assay Q		
23	Vaccines programs (dogs)		MC/Assay Q		
24	Vaccines programs (cats)		MC/Assay Q		
25	Sampling of animal feeds		MC/Assay Q		
26	Feed legislation		MC/Assay Q		

#	Skills you need to have knowledge about them	Course(s)	Method of skill assessment	Instructor signature	Date
27	Feed processing industry		MC/Assay Q		
28	Methods of feed analyses		MC/Assay Q		
29	Nutritional disorders and prevention		MC/Assay Q		
30	Rules of safety of x-ray		MC/Assay Q		
31	Wound dehiscence treatment		MC/Assay Q		
32	Liver biopsy		MC/Assay Q		
33	Laparoscopy		MC/Assay Q		
34	Rolling colon entrapment (horse)		MC/Assay Q		
35	Rectal rupture repair		MC/Assay Q		
36	Ovariectomy via laparoscopy		MC/Assay Q		
37	Scrotal hernia treatment (dog)		MC/Assay Q		
38	Scrotal hernia treatment (horse)		MC/Assay Q		
39	Cesarian section (mare)		MC/Assay Q		
40	Urachus fistula repair (cow)		MC/Assay Q		
41	Bladder rupture repair		MC/Assay Q		
42	Aural hematoma treatment		MC/Assay Q		
43	Removal of foreign body from ear/external ear canal		MC/Assay Q		
44	Repositioning proptosed eye		MC/Assay Q		
45	Lens luxation treatment/surgical removal		MC/Assay Q		
46	Arthroscopy / tenoscopy		MC/Assay Q		
47	Adrenalectomy (dogs, cats)		MC/Assay Q		
48	Anal sac ablation (dogs)		MC/Assay Q		
49	Arthrodesis		MC/Assay Q		

#	Skills you need to have knowledge about them	Course(s)	Method of skill assessment	Instructor signature	Date
50	Blepharoplasty		MC/Assay Q		
51	Cervical stump resection (dogs)		MC/Assay Q		
52	Cornel trauma treatment		MC/Assay Q		
53	Entropion/ectropion treatment		MC/Assay Q		
54	Elbow luxation surgical treatment		MC/Assay Q		
55	Conservative fracture treatment		MC/Assay Q		
56	Hip luxation --- surgical treatment		MC/Assay Q		
57	Femoral head resection		MC/Assay Q		
58	Dewclaw amputation --- adult		MC/Assay Q		
59	Hygroma elbow		MC/Assay Q		
60	Mandibular symphysis luxation		MC/Assay Q		
61	Jaw resection		MC/Assay Q		
62	Stifle/shoulder joint arthrotomy		MC/Assay Q		
63	Elbow arthrotomy - ununited anconeal process		MC/Assay Q		
64	Elbow arthrotomy - fractured coronoid process		MC/Assay Q		
65	Joint luxation- non-invasive repositioning		MC/Assay Q		
66	Nostril reconstruction (dog)		MC/Assay Q		
67	Eyelid trauma treatment		MC/Assay Q		
68	Eyelid tumor treatment		MC/Assay Q		
69	Open abdominal drainage		MC/Assay Q		
70	Patellar luxation		MC/Assay Q		
71	Peritoneal lavage		MC/Assay Q		
72	Pyloromyotomy, pyloroplasty		MC/Assay Q		

#	Skills you need to have knowledge about them	Course(s)	Method of skill assessment	Instructor signature	Date
73	Rectal prolapse treatment		MC/Assay Q		
74	Mandibular/sublingual salivary gland resection		MC/Assay Q		
75	Vaginal tumor resection		MC/Assay Q		
76	Tongue amputation		MC/Assay Q		
77	Middle ear polyp removal		MC/Assay Q		
78	Proper disposition of expired drugs/chemicals		MC/Assay Q		
79	Proper disposition of biological waste		MC/Assay Q		
80	Embryo transfer		MC/Assay Q		
81	Twin reduction (horses)		MC/Assay Q		
82	Vaginal prolapse treatment (dog)		MC/Assay Q		
83	Vaginal prolapse treatment (food animals)		MC/Assay Q		
84	Normal parturition/extraction		MC/Assay Q		
85	Diagnosis of abortion		MC/Assay Q		
86	Care of parturient animals		MC/Assay Q		
87	Preparing and dispatching of body specimens		MC/Assay Q		
88	Implementation of modern laboratory techniques		MC/Assay Q		
89	Emergency killing for slaughter		MC/Assay Q		
90	Develop HACCP plan		MC/Assay Q		
91	Knowledge of different poultry management practices (housing, feeding, lighting, vaccine, biosecurity)		MC/Assay Q		
92	Medications for bacterial and parasitic poultry diseases		MC/Assay Q		
93	Poultry vaccines and their uses		MC/Assay Q		
94	Formulate a differential list for respiratory diseases		MC/Assay Q		

#	Skills you need to have knowledge about them	Course(s)	Method of skill assessment	Instructor signature	Date
95	Formulate a differential list for enteric diseases		MC/Assay Q		
96	Formulate a differential list for nervous signs		MC/Assay Q		
97	Formulate a differential list for kidney diseases		MC/Assay Q		
98	Formulate a differential list for liver diseases		MC/Assay Q		
99	Formulate a differential list for lameness		MC/Assay Q		
100	Formulate a differential list for immune organs atrophy		MC/Assay Q		
101	Formulate a differential list for egg quality changes		MC/Assay Q		
102	Describe disease and mortality distribution in animal population		MC/Assay Q		
103	Understand and and apply basic statistical / epidemiological techniques		MC/Assay Q		
104	Know basic design and statistical analysis of epidemiological studies		MC/Assay Q		
105	Apply epidemiological techniques for investigation of an outbreak		MC/Assay Q		
106	Epidemiological Sampling Techniques and study designs		MC/Assay Q		
107	Designing and conducting screening epidemiological program		MC/Assay Q		
108	Making epidemiological risk analysis for infectious diseases		MC/Assay Q		