



Cornell University

City University of Hong Kong - School of Veterinary Medicine
in collaboration with Cornell University

East meets West – a new paradigm in veterinary teaching

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City University of Hong Kong





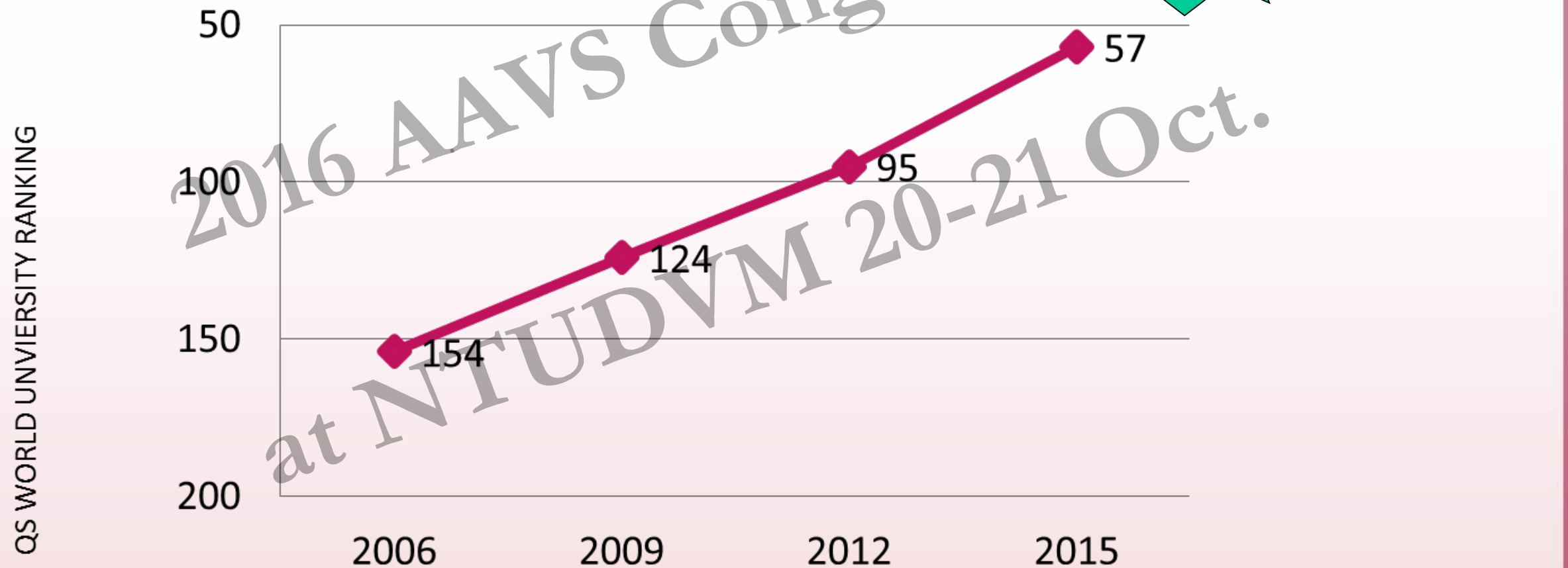
Vision and Mission



Cornell University

City University of Hong Kong - School of Veterinary Medicine
in collaboration with Cornell University

City University of Hong Kong aspires to become a
leading global university



According to Quacquarelli Symonds (QS).





Justification for a veterinary programme

- Anomaly amongst the professions in Hong Kong, veterinary medicine is the only profession not educated locally (2 medical schools, one dental)
- No internationally-accredited veterinary school in east or south-east Asia
 - ~670 registered veterinary surgeons in Hong Kong (most RCVS or AVMA grads)
 - At least ~150-200 Hong Kong students studying overseas (2011)
- In other developed economies, people ($\times 10^6$) to vet school ratio ranges from 3.4 to 10.7
 - Hong Kong population 7.4×10^6
 - 3 new vet schools in Australia in past decade, two in the UK (another one just started in UK at University of Surrey, probably another one soon in Wales)





Justification for a veterinary programme

- Hong Kong has been a focus of or close to major zoonotic incidents
 - SARS outbreak originating from wildlife (2003)
 - Avian influenza from wildlife to livestock to humans (ongoing)
 - MERS-CoV in South Korea recently
- Ongoing food contamination scandals in China
 - Melamine in milk, beta-agonists in pork
- Aquaculture predicted to grow rapidly
 - » (World Bank, 2013)
 - presently beset by all the problems of intensive production systems

	TOTAL FISH SUPPLY	
	DATA 2008	PROJECTION 2030
Capture	89,443	93,229
Aquaculture	52,843	93,612
Global total	142,285	186,842





But not all plain sailing

- Two rejections from HK University Grants Committee (UGC)
 - 2012 and 2014

yet

- UGC Task Force in 2014 reported that
 - small, fit-for-purpose veterinary school was warranted
 - should focus on postgraduate research
 - and supplement local research in FS, EID, AW





Building partnerships

Visit to Tsinghua University

MOU with the RVC

Veterinary nursing Diploma





Building partnerships cont.

Visiting with CAU, Beijing



CPE in Southern China

Over 60 CPE events already, most recent a TBD workshop in conjunction with the USDA





Building strengths and research

- Residency & Internship programmes
 - Anatomical Pathology
- Joint PhD with Cornell supervision (n=13)





Strong local support

- Strong support from local (business) community
 - 2015
 - HK\$ 200 million donations
 - 2016
 - Likely another \$100 million
 - Support for a High School Summer School programme at Cornell in July 2016





Undergraduate curriculum

Bachelor of Veterinary Medicine (BVM) 獸醫學學士

- Both medical degrees in HK are at Bachelor level and of 6 year duration

International professional accreditation

- AVBC, AVMA or RCVS?
 - Australasian Veterinary Boards Council (AVBC)
 - assures employment from graduation (in HK, Singapore, AUS, NZ, RSA, possibly UK) (and China)





The School of Veterinary Medicine at CityU in Hong Kong
was established in 2014 in collaboration with Cornell
University's College of Veterinary Medicine,
with a vision to

*“strive to be the premier provider of comprehensive,
evidence-based veterinary training, research and service in
Asia, with particular emphasis on Emerging Infectious
Diseases, Food Safety, Animal Welfare and Aquatic
Production”.*





Curriculum planning with Cornell

- Developed over a period of 2 years
- Developing the special focus areas (AQ/AW/EIDs/FS)
- Maintaining the connection to Cornell DVM





Curriculum planning with Cornell





Curriculum constraints

“One Health” overarching strategic theme

- Emerging infectious diseases
- Food safety
- Aquatic production
- Animal welfare

2016 AAAS Congress
at NTU DVM 20-21 Oct.





Curriculum constraints cont.

Cornell University's 4-year graduate DVM curriculum

- Cornell pre-requisite requirements

Largely problem/case-based learning

Mainly focused on small animals (anatomy basically dog only)

7 Foundation courses/plenty of electives





Curriculum constraints cont.

- Gateway Education Requirements
 - Eclectic mix of several courses that address areas such as
 - Arts and Humanities
 - Studies of Societies and Business Organisations
 - Science and Technology





Curriculum imperatives

- AVBC requirements (high practical component of learning: >30%)
 - Public health/Food safety (5 days in abattoirs/food processing premises)
 - Animal welfare/behaviour
 - Animal husbandry
- AVBC extramural studies requirements
 - 12 weeks of animal husbandry EMS
 - 26 weeks of clinical EMS





Pre-clinical years

VM.2001 One Health	3	SR AA R ED	BMS.2xxx Biology of Cells	3
GE.1401 (University Req.) University English	3	CP AA R	BMS.2xxx Veterinary Microbiology	3
GE.1501 (University Req.) Chinese Civilisation - History and Philosophy	3		MA.2xxx Statistics for Evidence- based Biological and Veterinary Sciences	3
BCH.1100 (School-Specific Req.) Chemistry	3	CP AA R	VM.2101 Aquatic and Marine Hazards	3
AP.1xxx (School-Specific Req.) Introductory Physics for Biologists	3	CP AA R	VM.2102 Animal Behaviour	3
GE. xxxx (DB - Area 3) Introduction to Animal Welfare	3	AA R AW	VM.2103 Advanced Animal Welfare	3
GE. xxxx (DB - Area 1) Animal Ethics	3	AA R AW	BCH.2007B (School-Specific Req.) Principles of Organic Chemistry	3
Total Credit Units	21		Total Credit Units	21
Semester 2	CU		Semester 4	CU
AP.2xxx Advanced Physics for Biologists	3	CP	BMS.2003 Biochemistry for Veterinary Science	3
BMS.2xxx Biology of Populations, Species and EcoSystems	3	SR CP AA R	BMS. xxxx Genes, Inheritance and Genetic Disorders	3
VM.2002 Animal Welfare	3	SR AA R AW	VM.2104 Introduction to Food Safety	3
VM.2003 Extensive Livestock Farming Systems	3	AAR	VM.2105 Introduction to Zoonoses	3
GE.24XX (University Req.) English for Veterinary Science	3	CP AA R	VM.2106 Aquaculture	3
GE. xxxx (DB - Area 2) Economics of Food Safety	3	FS	VM.2107 Intensive Animal Husbandry	3
GE. xxxx (DB - Area 3) Food Production in the Modern World	3	AA R FS	VM.3001 Animal Body I	3
Total Credit Units	21		Total Credit Units	21
Total Credit Units in Year 1	42		Total Credit Units in Year 2	42

Year 3			Year 4			Year 5			Year 6		
Semester 5	CU		Semester 7	CU		Semester 9	CU		Semester 11	CU	
VM 3002 Animal Body II	15	AAR	VM 4000 Host, Agent and Defense	15	AAR	VM 4102 Animal Health and Disease: Part II	18	AAR	VM 4302 Clinical Rotations: Part II	18	AAR
VM 3003 Safety and Regulation	3	AAR FS	VM 4001 Clinical Pharmacology/ Toxicology	3	AAR	VM 4401 Veterinary Practice Parts III & IV: Veterinary Communication, Business and Professional Development	3	AAR	VM 4401 Research Project I	3	RCVS
VM 3010 Veterinary Practice Parts I & II: Clinical Examination and Procedures	3	AAR	VM 4002 Conservation Medicine	3							
Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units	21	
Semester 6	CU		Semester 8	CU		Semester 10	CU		Semester 12	CU	
VM 3100 Innate and Dysfunction	18	AAR	VM 4101 Animal Health and Disease: Part I	18	AAR	VM 4011 Veterinary Practice Part V: Transition to the Profession	1	AAR FS	VM 4303 Clinical Rotations: Part III	18	AAR
						VM 4103 Zoo and Exotic Animal Diseases	3	RCVS			
						VM 4104 Transboundary Animal Diseases	3	AAR ED			
						VM 4202 Aquatic Veterinary Medicine II (Invertebrates)	3	AP			
						VM 4105 Clinical Seminars	1				
						VM 4301 Clinical Rotations: Part I	10	AAR	VM 4402 Research Project II	3	RCVS
VM 3004 Evidence Based Veterinary Medicine	3	AAR	VM 4201 Aquatic Veterinary Medicine I (Fin Fishes)	3	AP						
Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units	21	
Total Credit Units in Year 3	42		Total Credit Units in Year 4	42		Total Credit Units in Year 5	42		Total Credit Units in Year 6	42	
GRADUATION 252											
Summer 3	Weeks		Summer 4	Weeks		Summer 5	Weeks				
Clinical EMS	8	AAR D	Clinical EMS	8	AAR D	Clinical EMS	10	AAR D			



Para-clinical years

	Year 1			Year 2		
	Semester 1	CU		Semester 3		
Semester A (Sep - Dec)	YM.2001 One Health	3	SR AA R ED	BMS.2xxx Biology of Cells		
	GE.1401 (University Req.) University English	3	CP AA R	BMS.2xxx Veterinary Microbiology		
	GE.1501 (University Req.) Chinese Civilisation - History and Philosophy	3		MA.2xxx Statistics for Evidence-based Biological and Veterinary Sciences		
	BCH.1100 (School-Specific Req.) Chemistry	3	CP AA R	YM.2101 Aquatic and Marine Hazards		
	AP.1xxx (School-Specific Req.) Introductory Physics for Biologists	3	CP AA R	YM.2102 Animal Behaviour		
	GE. xxxx (DB - Area 3) Introduction to Animal Welfare	3	AA R AW	YM.2103 Advanced Animal Welfare		
	GE. xxxx (DB - Area 1) Animal Ethics	3	AA R AW	BCH.2007B (School-Specific Req.) Principles of Organic Chemistry		
	Total Credit Units	21		Total Credit Units		
Semester B (Jan - May)	Semester 2	CU		Semester 4		
	AP.2xxx Advanced Physics for Biologists	3	CP	BMS.2003 Biochemistry for Veterinary Science		
	BMS.2xxx Biology of Populations, Species and EcoSystems	3	SR CP AA R	BMS. xxxx Genes, Inheritance and Genetic Disorders		
	YM.2002 Animal Welfare	3	SR AA R AW	YM.2104 Introduction to Food Safety		
	YM.2003 Extensive Livestock Farming Systems	3	AAR	YM.2105 Introduction to Zoonoses		
	GE.24XX (University Req.) English for Veterinary Science	3	CP AA R	YM.2106 Aquaculture		
	GE. xxxx (DB - Area 2) Economics of Food Safety	3	FS	YM.2107 Intensive Animal Husbandry		
	GE. xxxx (DB - Area 3) Food Production in the Modern World	3	AA R FS	YM.3001 Animal Body I		
	Total Credit Units	21		Total Credit Units		
	Total Credit Units in Year 1	42		Total Credit Units in Year 2		
Summer (Jun - Aug)	Summer 1	Weeks		Summer 2		
	Husbandry EMS	6	AA R D	Husbandry EMS		

Semester 5			Semester 7		
Semester 5	CU		Semester 7		CU
YM.3002 Animal Body II	15	AAR	YM.4000 Host, Agent and Defense	15	
YM.3003 Food Safety and Regulation	3	AA R FS	YM.4001 Clinical Pharmacology/ Toxicology	3	
YM.3010 Veterinary Practice Parts I & II: Physical Examination and Clinical Procedures	3	AAR	YM.4002 Conservation Medicine	3	
Total Credit Units	21		Total Credit Units	21	
Semester 6			Semester 8		
Semester 6	CU		Semester 8		CU
YM.3100 Function and Dysfunction	18	AAR	YM.4101 Animal Health and Disease: Part I	18	
YM.3004 Evidence Based Veterinary Medicine	3	AAR	YM.4201 Aquatic Veterinary Medicine I (Fin Fishes)	3	
Total Credit Units	21		Total Credit Units	21	
Total Credit Units in Year 3	42		Total Credit Units in Year 4	42	

Year 5			Year 6		
Semester 9	CU		Semester 11	CU	
YM.4102 Health and Disease: Part II	18	AAR	YM.4302 Clinical Rotations: Part II	18	AAR
YM.4101 Veterinary Practice Parts III, IV: Veterinary Communication, Business and Professional Development	3	AAR	YM.4401 Research Project I	3	RCVS
Total Credit Units	21		Total Credit Units	21	
Semester 10	CU		Semester 12	CU	
YM.4011 Veterinary Practice Part V: Transition to the Profession	1	AA R FS	YM.4303 Clinical Rotations: Part III	18	AAR
YM.4103 and Exotic Animal Diseases	3	RCVS			
YM.4104 Crossboundary Animal Diseases	3	AA R ED			
YM.4202 Aquatic Veterinary Medicine II (Invertebrates)	3	AP			
YM.4105 Clinical Seminars	1				
YM.4301 Clinical Rotations: Part I	10	AAR	YM.4402 Research Project II	3	RCVS
Total Credit Units	21		Total Credit Units	21	
Credit Units in Year 5	42		Total Credit Units in Year 6	42	
GRADUATION 252					
Summer 5	Weeks				
Clinical EMS	10	AA R D			



Clinical years

	Year 1			Year 2			Year 3			Year 4		
	Semester 1	CU		Semester 3	CU		Semester 5	CU		Semester 7	CU	
Semester A (Sep - Dec)	YM 2001 One Health	3	SH AA ED	BMS 2xxx Biology of Cells	3	SH CP AA R	YM 3002 Animal Body II	15	AAR	YM 4000 Host, Agent and Defense		
	GE 1401 (University Req.) University English	3	CP AA R	BMS 2xxx Veterinary Microbiology	3	CP AA R						
	GE 1501 (University Req.) Chinese Civilisation - History and Philosophy	3		MA 2xxx Statistics for Evidence-based Biological and Veterinary Sciences	3	SH CP AA R						
	BCH 1100 (School-Specific Req.) Chemistry	3	CP AA R	YM 2101 Aquatic and Marine Hazards	3	AP						
	AP 1xxx (School-Specific Req.) Introductory Physics for Biologists	3	CP AA R	YM 2102 Animal Behaviour	3	SR CP						
	GE xxxx (DB - Area 3) Introduction to Animal Welfare	3	AA R AW	YM 2103 Advanced Animal Welfare	3	AW						
	GE xxxx (DB - Area 1) Animal Ethics	3	AA R AW	BCH 2007B (School-Specific Req.) Principles of Organic Chemistry	3	CP AA R						
	Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units		
Semester B (Jan - May)	AP 2xxx Advanced Physics for Biologists	3	CP	BMS 2003 Biochemistry for Veterinary Science	3	CP AA R	YM 3100 Function and Dysfunction	18	AAR	YM 4101 Animal Health and Disease: Part I		
	BMS 2xxx Biology of Populations, Species and EcoSystems	3	SH CP AA R	BMS xxxx Genes, Inheritance and Genetic Disorders	3	AAR						
	YM 2002 Animal Welfare	3	SH AA R AW	YM 2104 Introduction to Food Safety	3	AA R FS						
	YM 2003 Extensive Livestock Farming Systems	3	AAR	YM 2105 Introduction to Zoonoses	3	AA R ED						
	GE 24XX (University Req.) English for Veterinary Science	3	CP AA R	YM 2106 Aquaculture	3	AP						
	GE xxxx (DB - Area 2) Economics of Food Safety	3	FS	YM 2107 Intensive Animal Husbandry	3	AA R						
	GE xxxx (DB - Area 3) Food Production in the Modern World	3	AA R FS	YM 3001 Animal Body I	3	AAR						
	Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units		
	Total Credit Units in Year 1	42		Total Credit Units in Year 2	42		Total Credit Units in Year 3	42		Total Credit Units in Year 4		
Summer (Jun - Aug)	Summer 1	Weeks		Summer 2	Weeks		Summer 3	Weeks		Summer 4	Weeks	
	Husbandry EMS	6	AA R	Husbandry EMS	6	AA R	Clinical EMS	8	AA R	Clinical EMS		

Semester 9	CU		Semester 11	CU
YM 4102 Animal Health and Disease: Part II	18	AAR	YM 4302 Clinical Rotations: Part II	18
YM 4101 Veterinary Practice Parts III & IV: Veterinary Communication, Business and Professional Development	3	AAR	YM 4401 Research Project I	3
Total Credit Units	21		Total Credit Units	21
Semester 10	CU		Semester 12	CU
YM 4011 Veterinary Practice Part V: Transition to the Profession	1	AA R FS	YM 4303 Clinical Rotations: Part III	18
YM 4103 Zoo and Exotic Animal Diseases	3	RCVS		
YM 4104 Transboundary Animal Diseases	3	AA R ED		
YM 4202 Aquatic Veterinary Medicine II (Invertebrates)	3	AP		
YM 4105 Clinical Seminars	1			
YM 4301 Clinical Rotations: Part I	10	AAR	YM 4402 Research Project II	3
Total Credit Units	21		Total Credit Units	21
Total Credit Units in Year 5	42		Total Credit Units in Year 6	42





Curriculum

	Year 1			Year 2			Year 3			Year 4			Year 5			Year 6		
	Semester 1	CU		Semester 3	CU		Semester 5	CU		Semester 7	CU		Semester 9	CU		Semester 11	CU	
Semester A (Sep - Dec)	YM 2001 One Health	3	SH AA R ED	BMS 2xxx Biology of Cells	3	SH CP AA R	YM 3002 Animal Body II	15	AAR	YM 4000 Host, Agent and Defense	15	AAR	YM 4102 Animal Health and Disease: Part II	18	AAR	YM 4302 Clinical Rotations: Part II	18	AAR
	GE 1401 (University Req.) University English	3	CP AA R	BMS 2xxx Veterinary Microbiology	3	CP AA R												
	GE 1501 (University Req.) Chinese Civilisation - History and Philosophy	3		MA 2xxx Statistics for Evidence-based Biological and Veterinary Sciences	3	SH CP AA R												
	BCH 1100 (School-Specific Req.) Chemistry	3	CP AA R	YM 2101 Aquatic and Marine Hazards	3	AP												
	AP 1xxx (School-Specific Req.) Introductory Physics for Biologists	3	CP AA R	YM 2102 Animal Behaviour	3	SR CP												
	GE xxxx (DB - Area 3) Introduction to Animal Welfare	3	AA R AW	YM 2103 Advanced Animal Welfare	3	AW												
	GE xxxx (DB - Area 1) Animal Ethics	3	AA R AW	BCH 2007B (School-Specific Req.) Principles of Organic Chemistry	3	CP AA R												
	Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units	21	
Semester B (Jan - May)	AP 2xxx Advanced Physics for Biologists	3	CP	BMS 2003 Biochemistry for Veterinary Science	3	CP AA R	YM 3100 Function and Dysfunction	18	AAR	YM 4101 Animal Health and Disease: Part I	18	AAR	YM 4103 Zoo and Exotic Animal Diseases	3	RCVS	YM 4303 Clinical Rotations: Part III	18	AAR
	BMS 2xxx Biology of Populations, Species and EcoSystems	3	SH CP AA R	BMS xxxx Genes, Inheritance and Genetic Disorders	3	AAR												
	YM 2002 Animal Welfare	3	SH AA R AW	YM 2104 Introduction to Food Safety	3	AA R FS												
	YM 2003 Extensive Livestock Farming Systems	3	AAR	YM 2105 Introduction to Zoonoses	3	AA R ED												
	GE 24XX (University Req.) English for Veterinary Science	3	CP AA R	YM 2106 Aquaculture	3	AP												
	GE xxxx (DB - Area 2) Economics of Food Safety	3	FS	YM 2107 Intensive Animal Husbandry	3	AA R												
	GE xxxx (DB - Area 3) Food Production in the Modern World	3	AA R FS	YM 3001 Animal Body I	3	AAR												
	Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units	21		Total Credit Units	21	
	Total Credit Units in Year 1	42		Total Credit Units in Year 2	42		Total Credit Units in Year 3	42		Total Credit Units in Year 4	42		Total Credit Units in Year 5	42		Total Credit Units in Year 6	42	
GRADUATION 252																		
Summer (Jun - Aug)	Summer 1	Weeks		Summer 2	Weeks		Summer 3	Weeks		Summer 4	Weeks		Summer 5	Weeks				
	Husbandry EMS	6	AA R	Husbandry EMS	6	AA R	Clinical EMS	8	AA R	Clinical EMS	8	AA R	Clinical EMS	10	AA R			



Veterinary View Congress

2016 AAEPs Congress
at NTU DVM 20-21 Oct.





Facilities and resources

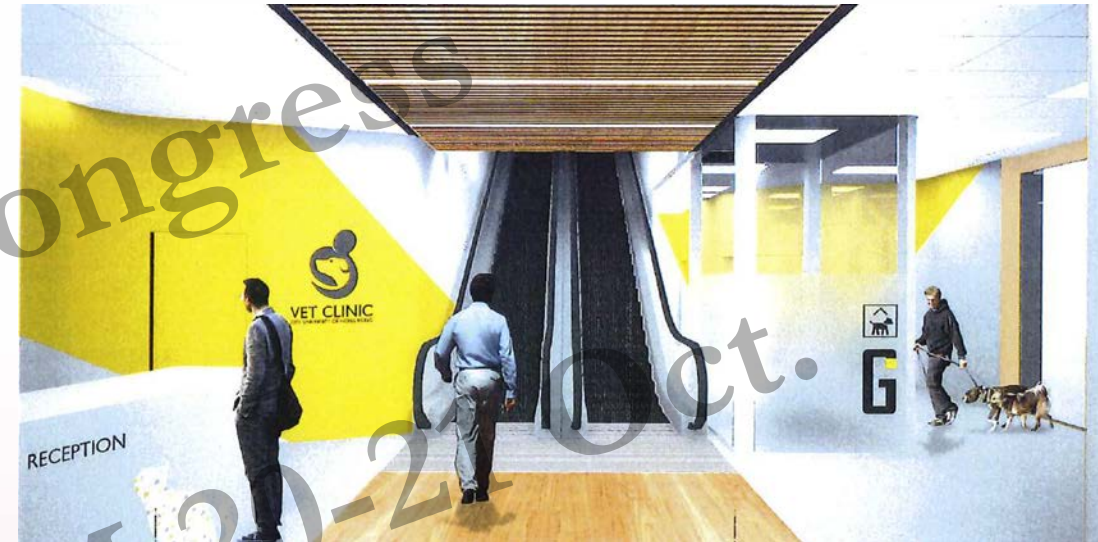
Acquisition of the largest private practice in Hong Kong (Peace Avenue Veterinary Clinic) to give immediate access to clientele and caseload (also ensuring a profitable business)
(immediate addition to veterinary staff (32, of which 6 specialists))





Facilities and resources cont.

Construction of a world-class Veterinary Specialist teaching hospital that is financially sustainable (in a retail shopping centre)





Facilities and resources cont.

Diagnostic laboratory

- Presently local veterinarians send samples to all corners of the globe, such as Australia, NZ, UK, US, as well as RSA





Facilities and resources cont.

Veterinary diagnostic
laboratory, accredited
to international
standards
(scheduled for completion in 2016)





Facilities and resources cont.

Farm facilities
(cattle, small
ruminants), equine
facility and an
ambulatory service

(about 90 odd small-scale pig and
poultry farm, presently not
serviced by veterinarians)





Facilities and resources cont.

Aquaculture strong
in the region and
expected to grow

- Strongly reflected
in the curriculum
- and in Research





Facilities and resources cont.

Also launched the
two year veterinary
nursing (built on
RVC template)

DSE “Animal care”
subject





AVBC consultative visit





Launch of BVM 19 Sep 16





Local interest is strong





Next steps ahead

- First student applications commence in mid October (n=10 - 15)
- Final sign-off on BVM curriculum by CityU's Senate expected on November, 1st
- VSAAC (AVBC) accreditation visit
 - December (12th-15th)
- First class commences in September 2017
- Veterinary leadership training in Cornell, Ithaca, mid 2018

