

Mandatory and elective courses for PhD candidates at the NMBU Faculty of Veterinary Medicine (VET)**Important**

§ All PhD candidates at VET are required to complete a coursework component corresponding to a minimum of 30 ECTS.

§ The courses included must be at master's or PhD level.

§ At least 20 ECTS should be completed after admission into the PhD programme.

§ No courses in the coursework component can be older than two years upon admission into the PhD programme.

§ In the case of "Forskerlinjestudenter", all courses in the coursework component have to be completed after admission into "Forskerlinjen".

§ A course in research ethics and philosophy of science conferring minimum 5 ECTS must be included (for example, VET400, MINA400 or PHI401).

§ This is a non-exhaustive list of courses taken by former PhD candidates at VET, and can be used as a reference when you work with your supervisors to develop your education plan, which is subject to approval by the Faculty.

§ Please refer to the VET PhD programme pages for more information regarding the coursework component, and do not hesitate to contact us (phd.radgiver.vet@nmbu.no) should you require any clarification. Some of the courses may have been discontinued or replaced with other courses.

Courses offered by the Faculty of Veterinary Medicine

No.	Course code and title	ECTS	Webpage (NO)	Webpage (EN)	Remarks
1	VET400 Introduction to ethical and philosophical perspectives in biomedical research	5	VET400 (NO)	VET400 (EN)	VET400, MINA400 or PHI401 can be taken to meet the requirement a 'course in research ethics and philosophy of science conferring minimum five credits must be included in the education plan of all PhD students at the Faculty of Veterinary Medicine' (PhD regulations § 8-2).
2	VET403 Scientific publication	2	VET403 (NO)	VET403 (EN)	
3	VET410 Introduction to biostatistics	3	VET410 (NO)	VET410 (EN)	
4	VET411 Introduction to veterinary epidemiology	7,5	VET411 (NO)	VET411 (EN)	
5	VET414 Applied statistics for experimental and laboratory oriented studies in veterinary science	5	VET414 (NO)	VET414 (EN)	Discontinued.
6	VET420 Writing the PhD thesis	2	VET420 (NO)	VET420 (EN)	Mandatory course for all PhD candidates at VET.
7	VET421 Midterm evaluation	3	VET421 (NO)	VET421 (EN)	Mandatory course for all PhD candidates at VET.
8	VET430 Poster presentation in national/international conference	1	NO	EN	1 ECTS per unique poster, maximum 4 ECTS for posters and presentations.
9	VET431 Oral presentation in national conference	1			
10	VET432 Oral presentation in international conference	1			
11	VET433 Research stay abroad		VET433 (NO)	VET433 (EN)	1,5 ECTS per research stay of at least 2 weeks. Maximum 3 ECTS.
12	SPE-PHD-VET Special syllabus		NO	EN	If no suitable course is available at NMBU, a special syllabus level may be approved as part of the required coursework. Before you go ahead with a special syllabus, you must enter into an NMBU 3.1 Agreement for special syllabus with the Faculty.

Courses offered by other Faculties at NMBU

1	MINA400 Research Education Across Disciplines	5	MINA400 (NO)	MINA400 (EN)	VET400, MINA400 or PHI401 can be taken to meet the requirement a 'course in research ethics and philosophy of science conferring minimum five credits must be included in the education plan of all PhD students at the Faculty of Veterinary Medicine' (PhD regulations § 8-2).
2	PHI401 Research Ethics and Philosophy of Science I	5	PHI401 (NO)	PHI401 (EN)	
3	IND400 Management of the PhD project	2	IND400 (NO)	IND400 (EN)	Formerly known as FORN400
4	AQX251 Sustainability and Welfare in Aquaculture	5	AQX251 (NO)	AQX251 (EN)	
5	BIN300 Statistical Genomics	10	BIN300 (NO)	BIN300 (EN)	
6	BIN315 Selected Topics in Functional Genomics	10	BIN315 (NO)	BIN315 (EN)	
7	BIN420 Bioinformatics for Functional Meta-Omics	5	BIN420 (NO)	BIN420 (EN)	
8	BIO300 Microscopy Techniques	10	BIO300 (NO)	BIO300 (EN)	
9	BIO314 Fish Physiology and Aquatic Adaptations	5	BIO314 (NO)	BIO314 (EN)	
10	BIO334 Virology	5	BIO334 (NO)	BIO334 (EN)	
11	HET301 The Biology of Animal Stress and Its Implications for Animal Welfare	10	HET301 (NO)	HET301 (EN)	
12	STIN300 Statistical Programming in R	5	STIN300 (NO)	STIN300 (EN)	
13	STAT340 Applied Methods in Statistics	10	STAT340 (NO)	STAT340 (EN)	
14	VH-LAB Laboratory Animal Science for Researchers	10	VH-LAB (NO)	VH-LAB (EN)	

Courses offered by other institutions in Norway**University of Oslo (UiO)**

1	MBV-INF9410 Bioinformatics for Molecular Biology	10		MBV-INF9410 (EN)	
2	MBV4250- Basic immunology and immunological techniques	10	MBV4250 (NO)	MBV4250 (EN)	
3	MBV9160- Advanced Cancer Biology	10		MBV9160 (EN)	
4	MBV9250- Basic immunology and immunological techniques	10	MBV9250 (NO)	MBV9250 (EN)	
5	MBV9260- Advanced immunology	10		MBV9260 (EN)	
6	MF9120- Introduction to infectious disease modelling	3		MF9120 (EN)	
7	MF9130- Introductory course in statistics	8	MF9130 (NO)	MF9130E (EN)	
8	MF9150- Essentials of Neurophysiology: from neurons to circuits to behaviours	5		MF9150 (EN)	
9	MF9170- Flow cytometry in medical research and diagnostics	4	MF9170 (NO)	MF9170 (EN)	
10	MF9195- OMICs in medical research	5		MF9195 (EN)	
11	MF9210- Laboratory course in molecular biology	5	MF9210 (NO)	MF9210 (EN)	
12	MF9225- A molecular approach to genetic and epigenetic gene regulation, from basic research to the clinic	5		MF9225 (EN)	
13	MF9295- Global health	5		MF9295 (EN)	
14	MF9495T- Course In Animal Research In Norway (CAREIN) - Theoretical training	8		MF9495T (EN)	
15	MF9495P- Course In Animal Research In Norway (CAREIN) - Practical training in handling of laboratory rodents	2		MF9495P (EN)	
16	MF9570- Causal inference	4		MF9570 (EN)	
17	BIO4500- General Toxicology	10	BIO4500 (NO)	BIO4500 (EN)	
18	BIO9550- Ecotoxicology	10	BIO9550 (NO)	BIO9550 (EN)	
19	BIO9200- Molecular Evolution	10	BIO9200 (NO)	BIO9200 (EN)	
20	BIO9905MERG1- Bioinformatics for Environmental Sequencing (DNA metabarcoding)	5		BIO9905MERG1 (EN)	
21	BIO54030- Laboratory Methods in Cellular Biology	10	BIO54030 (EN)	BIO54030 (EN)	
22	BIO59111- Electron Microscopy	10	BIO59111 (NO)	BIO59111 (EN)	
23	BIO59905FBI2- Phylogenomics	5		BIO59905FBI2 (EN)	
24	BIO59980- Proteomics Basic Course	5		BIO59980 (EN)	
25	BIO59914- Cellular and molecular Immunology	10		BIO59914 (EN)	
26	BIO5-IN9410- Bioinformatics for Molecular Biology	10		BIO5-IN9410 (EN)	
27	IN-BIOS9000- Genome Sequencing Technologies, Assembly, Variant Calling and Statistical Genomics	10		IN-BIOS9000 (EN)	
28	IN4030- Introduction to Bioinformatics	10	IN4030 (NO)	IN4030 (EN)	
29	KJM9240- Mass Spectrometry	10	KJM9240 (NO)	KJM9240 (EN)	
30	HMET5120- Qualitative methods	5		HMET5120 (EN)	
31	FYS-STK4155-Applied Data Analysis and Machine Learning	10	FYS-STK4155 (NO)	FYS-STK4155 (EN)	

32	STK9900-Statistical Methods and Applications	10		STK9900 (EN)	
Norwegian University of Science and Technology (NTNU)					
1	MOL8008- Bioinformatics Methods for next Generation Sequencing Analysis	7,5	MOL8008 (NO)	MOL8008 (EN)	
2	MDV6003- Laboratory Animal Science for Researchers	7,5	MDV6003 (NO)	MDV6003 (EN)	
3	SMED8015- Qualitative Research Methods	7,5	SMED8015 (NO)	SMED8015 (EN)	
University of Stavanger (UIS)					
1	Bioinformatics and Computational Biology (BIO510)	10	BIO510 (NO)	BIO510 (EN)	
2	Statistical Methods in Medical Research 1 (BIO907)	5		BIO907 (EN)	
3	Statistical Methods in Medical Research 2 (BIO908)	5		BIO908 (EN)	
UIT The Arctic University of Norway (UIT)					
1	MBI-8005- Antimicrobial Resistance	3		MBI-8005 (EN)	
2	BIO-8014- Aquatic Animal Welfare	5		BIO-8014 (EN)	
University of Bergen (UiB)					
1	LAS301 Core module (Grunnmodul forsøksdyrlære)		LAS301 (NO)	LAS301 (EN)	
Oslo Metropolitan University (Oslomet)					
1	PHVIT9560 Bioinformatics with emphasis on analysis of high throughput sequencing data	5	PHVIT9560 (NO)	PHVIT9560 (EN)	
Inland Norway University of Applied Sciences (INN)					
1	2BIO021 Bioethics	5		2BIO021 (EN)	
Courses offered by institutions overseas					
Swedish University of Agricultural Sciences, Sweden					
1	PVG0042 Questionnaire Design and Management	2		PVG0042 (EN)	
2	PVS0151 Sperm Quality Evaluation	2		PVS0151 (EN)	
Karolinska Institutet, Sweden					
1	KI3089 Cryobiology in assisted reproductive technology	1,5		KI3089 (EN)	
Aarhus University, Denmark					
1	Courses offered by Department of Animal and Veterinary Sciences			PhD courses (EN)	
Technical University of Denmark (DTU), Denmark					
1	Courses offered by the National Food Institute (DTU Food)			DTU Food (EN)	
University of Copenhagen (KU), Denmark					
1	Courses offered by the Department of Experimental Medicine (AEM)			AEM (EN)	
Wageningen University, The Netherlands					
1	Courses offered by Wageningen Institute of Animal Sciences (WIAS)			WIAS courses (EN)	
Utrecht University, The Netherlands					
1	Economic Principles and Concepts for the Veterinary Sciences			Utrecht (EN)	
2	Applied economic modelling for the veterinary sciences			Utrecht (EN)	
Courses offered by university networks					
1	IBA National Graduate School in Infection Biology and Antimicrobials			IBA	
2	ForBio Research School in Biosystematics			ForBio	
3	NOVA University Network			NOVA	
Courses offered by other organizations					
1	Visualize your Science	4		Visualize your science (EN)	