DMP Course Offerings (updated 4/5/2022)

Course number	Course Title / Coordinator	Credit hours	Offered / Status	Designation / Standing	Catalog Description / Prerequisites
DMP 313	Introduction to Epidemiology / **Cernicchiaro**	3	Spring.	**Undergraduate level**	This introductory course explores the concepts, methods, and tools of epidemiology; the science of disease occurrence and distribution. Students will learn how epidemiologists or "disease detectives" gather, analyze, and interpret information on the occurrence of infectious, non-infectious, and chronic diseases.
DMP 314	Environmental and Public Health / **Kastner**	3	Spring.	**Undergraduate level**	This introductory course explores environmental health, the branch of public health that focuses on relationships between the environment and human health and well-being including the promotion of safe communities at the local, regional, national, and global level. Students will explore physical, chemical, biological, social, and psychosocial factors in the environment that impact human health and the ways in which societies create environmental health hazards.
DMP 611	Cow-Calf Health Systems / **Hanzlicek**	2	Spring	**Graduate level**	Management of animal well-being and efficient production in a cow-calf system. Includes the areas of health, growth, nutrition, pharmaceutical management, and reproduction.
DMP 680	Problems in Pathobiology / **Nagaraja**	variable / 1-5	Fall, Spring, Summer	**Graduate level**	Repeatable. Enrollment is by consent of the instructor. The format and credit hours for the course are determined by the instructor.
DMP 690	Essential Practices for BSL-3 Research Settings / **Vanlandingham**	1	Summer	**Graduate level**	This hands-on laboratory centered course will offer students functional skills training and an in-depth understanding of standard microbiological practices, principles and techniques necessary to safely conduct research in a Biosafety Level-3 setting. Corequisite: DMP 691

DMP 691	Introduction to High Containment Laboratory Topics and Techniques / **Vanlandingham**	2	Summer.	**Graduate level**	This course examines the rationale behind the skills and techniques taught in DMP 690 Essential Practices for High Containment Research Settings. Students will gain familiarity with the regulatory and operational requirements of high containment facilities and discuss best practices in the laboratory. Corequisite: DMP 690
DMP 710	Introduction to One Health / **Larson (Olathe)**	2	Fall / Online.	**Elective**	One Health encompasses the complex interrelationships among humans, animals, and the environment. This online course provides a broad introduction to One Health, incorporating original videos of leading experts, case studies, and scientific readings. It addresses zoonotic diseases and environmental issues that impact human, animal, and ecosystem health. Prerequisite: Two courses in biology.
DMP 754	Introduction to Epidemiology / **Larson (Olathe)**	3	Fall / Online	**Grad course / MPH 754 Crosslisting.**	The purpose of this course is to introduce students to the basic principles and methods of epidemiology in order to recognize and understand how disease affects populations (and the associated implications for individuals). This course will prepare students to use epidemiologic methods to solve current and future challenges to diagnose, treat, prevent, and control disease during their professional training and throughout their career.
DMP 770	Emerging Diseases / **TBA**	3	Summer Intersession / **inactive**	**Graduate level**	An investigation into recently identified emerging diseases, the conditions that enable their emergence, and the human health implications of each disease. This class is open to all students with some biology background, as well as veterinary students. Prerequisite: 3 hours of Biology above a 700 level.

DMP 802	Environmental Health / **Adams**	3	Spring, Summer	**Graduate level / Crosslisted with MPH 802.**	This is a three-credit graduate-level course consisting of a 3-hour meeting per week. Students will be exposed to professional practice of environmental sciences, epidemiology, toxicology, occupational health and industrial hygiene, and consumer health and safety.
DMP 806	Environmental Toxicology / **TBA**	2	Typically offered Spring. / **Inactive.**	**Graduate level / Crosslisted with MPH**	An advanced toxicology course concerned with the occurrence, biological effect, detection, and control of foreign chemicals in the environment. Prerequisite: Consent of faculty.
DMP 810	Cancer Pathogenesis / **TBA**	2	Fall - even years / **Inactive.**	**Graduate level**	This lecture will meet once a week for 2 hours per period. The first hour of each meeting will consist of brief student presentations of research papers illustrating key concepts presented in the previous lecture. The second hour of each meeting will consist of a lecture on the indicated topic.
DMP 813	Select Agent Studies / **Vanlandingham**	3	**Offered starting Summer 2023.**	**New course.**	This course provides an in-depth study of select agent regulations and guidance. Specific topics include a historical overview of select agent regulations, program rationales, tier one regulations, personnel suitability assessments, inventory systems and oversight.
DMP 814	Veterinary Bacteriology & Mycology (lecture only) / **Chengappa, Nagaraja**	3	Fall.	**Graduate level**	Veterinary Bacteriology and Mycology, is designed to provide graduate students in pathobiology or related field with basic knowledge of bacteria, fungi and the diseases that they cause primarily in animals. Prerequisite: BIOL 455
DMP 815	Multidisciplinary Thought and Presentation / **Kastner**	3	Spring, Summer, Fall.	**Graduate level**	Training in critical thinking, writing, and speaking for the food, veterinary, plant, health, and related sciences. With emphasis on writing, students prepare technical reports, news releases, abstracts, and commentaries.
DMP 816	Trade & Agricultural Health / **Kastner**	2	Spring, Fall.	**Graduate level**	This course considers the multilateral trading system as it relates to food safety, food security, animal health, plant health, and international cooperation. The course content will be of value to students interested in food safety and security, epidemiology,

DMP 817	Principles of Veterinary Immunology / **Mwangi**	3	Spring.	**Graduate level / VDMP 817 Crosslisting**	Innate and adaptive defense mechanisms in domestic animals. Topics include vaccinology, immunopathology, autoimmunity, immunodeficiency, and immunomodulation. Prerequisite: BIOCH 521 amd BIOL 455
DMP 818	Veterinary Epidemiology / **Renter, Hanthorn, Dodd, Sanderson, Cernicchiaro**	2	Spring.	**Graduate level / MPH 708 Crosslisting**	Introduction to the principles and methods of veterinary epidemiology: emphasizing how diseases affect populations (and associated implications for individuals), and application to disease diagnosis, treatment, prevention, and control.
DMP 820	Rumen Metabolism / **Nagaraja**	3	Spring (even years).	**Graduate level**	Metabolism, absorption, digestion, and passage of nutrients in the rumen; factors affecting the environment of the rumen; certain aspects of rumen function and dysfunction; techniques used in rumen research. Three one-hour lectures a week. Prerequisite: ASI 318 and BIOCH 521 or BIOCH 755.
DMP 821	Advanced Clinical Pathology Laboratory / **Pohlman**	1	**tentative until further notice**-- typically offered Fall, Spring, Summer.	**Graduate level**	Practical training in advanced techniques of clinical chemistry and hematology used in a large clinical pathology laboratory. Three hours lab per week.
DMP 830	Quantitative Analysis in Food Production Veterinary Medicine / **Gebhardt**	3	Fall.	**Graduate level**	Practical experience managing, describing, and interpreting data from animal health and management systems so that the data can be informative for decision-makers evaluating and implementing health programs, diagnostic strategies, and animal management processes. Prerequisite: Successful completion of the first year in the veterinary curriculum.
DMP 832	General Pathology / **Mosier**	4	Fall.	**Graduate level / VDMP 832 Crosslisting**	Etiology, pathogenesis, lesions, and termination of processes of disease, including inflammation, necrosis, regeneration, oncology, and disturbances of metabolism, circulation, and growth. Three hours lec. and four hours lab a week. Prerequisite: AP 800, AP 816, and AP 810.

DMP 834	Veterinary Parasitology / **Herrin, Chelladurai**	4	Fall.	**Graduate level / VDMP 832 Crosslisting**	Study of helmith, arthropod, and protozoan parasites of companion and food animals. Emphases are on diagnosis, clinical signs, lesions, treatment, control, epidemiology, and public health aspects of parasitic disease. Three hours lec. and four hours lab a week. Prerequisite: AP 810, AP 804, AP 818, and DMP 817 and DMP 818.
DMP 840	Public Health Field Experience / **Mulcahy**	variable / 3-6	Fall, Spring, Summer / by appointment.	**Graduate level/ KIN 840, FDSCI 840, FNDH 840, MPH 840 crosslisting**	Repeatable for credit. Only 6 hours may be applied toward the MPH degree. Prerequisite: Enrollment in MPH program.
DMP 844	Global Health Issues / **Briggs**	3	Fall.	**Graduate level**	A review of global health problems and various strategies to manage international health concerns. The class is open to graduate students, including veterinary students, with an interest in public health that have at least 12 hours in biology or related courses.
DMP 845	Food Safety Risk Analysis / **TBD**	3	TBD / **inactive**.	**Graudate Course**	Three hours of lectures on interwoven roles of risk assessment, management and communication – defined as risk analysis – will be applied to problems and policy development in food safety. This course will aid students in developing the ability to critically examine food safety risk issues from various stakeholder perspectives, leading to risk management and communication activities to reduce the impact of foodborne disease.
DMP 846	Foundations of Biosecurity / **Vanlandingham**	3	Summer.	**Graduate level**	The course examines the biosecurity policies and procedures required in high and maximum-containment research facilities. It provides a historical perspective of biosecurity, establishes definitions and explores concepts related to personnel, governmental and contemporary biosecurity topics.
DMP 850	Immunology of Domestic Animals / **Adams**	3	Fall.	**Graduate level**	This course is designed to introduce graduate students to immune responses of domestic animals to pathogens and parasites. Prerequisite: BIOL 541
DMP 851	Veterinary Virology / **(MAN TBD), Adams (Olathe)**	3	Spring	**Graduate level**	Morphology, biology, and classification of viruses and their relation to the causes of disease. Veterinary Virology is a 3 credit lecture course that is designed for veterinary students in the second year of the professional curriculum.

DMP 854	Intermediate Epidemiology **/ Sanderson**	3	Spring	**Graduate level / Crosslisted with MPH 854.**	Epidemiologic principles of disease with a focus on measures of disease occurrence, association and impact, determinants of disease diagnostic test evaluation, study design and critical literature evaluation. Prerequisite: DMP 708 or DMP 754 or equivalent AND STAT 701 or STAT 703 or DMP 830 or equivalent.
DMP 855	Disease Detection Surveillience and Risk Assessment / **TBD**	3	TBD	**Graduate level**	The course is focused on understanding the principles underlying quantitative risk assessments and disease detection/surveillance systems suited to a variety of animal health and food safety applications. These will then be used to advance the practical application of risk assessment and disease detection in the development of valid and useful herd, regional and national disease
DMP 856	Advanced Veterinary Parasitology / **TBA**	3	Spring / Odd years **(inactive).**	**Graduate level**	Structure, life cycle, pathology, immunology, public health significance, diagnosis, and treatment of protozoan and metazoan parasites of veterinary significance. One hour lecture, one hour recitation, and four hours lab per week. Prerequisite: DMP 718.
DMP 857	Systemic Pathology / **Mosier**	5	Spring.	**Graduate level / DMP 857 Crosslisting**	Pathology of the organ systems of domestic animals including gross and microscopic study of lesions. Three hours lecture and six hours lab a week. Prereqs: DMP 832.
DMP 858	Intro to Infectious Disease Modeling for Animal Health / **Sanderson**	3	Summer / Even years.	**Graduate level**	This is a graduate-level course focused on understanding and implementing infectious disease models using Excel and Monte-Carlo Statistical Methods as well as Spatially Explicit Stochastic models. The course is focused on food animal diseases using a mixture of lecture, scientific literature evaluation, discussion and hands on computer lab exercises.
DMP 859	Surgical Pathology / **Mosier**	variable / 1-2	Spring, Summer, Fall / **by appointment.**	**Graduate level**	Practical experience in examining and processing surgical biopsy specimens and writing histopathological reports. Three or six hours lab per week. Prerequisite: DMP 852.

DMP 860	Bacterial Parthenogenesis & Host Response / **Hardwidge**	3	Fall / Even years.	**Graduate level**	Virulence factors of infectious microorganisms and the host response to infection. Topics include pathogenesis of human and animal diseases and mechanisms of immunity. Prerequisite: DMP 812.
DMP 861	Advanced Diagnostic Pathology / **Mosier**	3	Summer and Fall / **by appointment.**	**Graduate level**	Pathologic alterations of disease with emphasis on diagnostic characteristics. Nine hours lab per week. Prerequisite: DMP 852.
DMP 862	Applied Domestic Animal Immunology / TBA	2	Spring / **Odd years (inactive)**.	**Graduate level**	Real-life immune problems of veterinary and zoonotic relevance and their application to domestic animal immune systems. One 1-hour lecture and one 1-hour discussion per week. Prerequisite: DMP 850, DMP 705 or an immunology course in a veterinary curriculum. Corequisite: Interested students who might not meet the enrollment prerequisite can contact the course coordinator to request permission to enroll.
DMP 863	Advanced Principles of Pathology / **Mosier**	3	Fall / by appointment **(inactive).**	**Graduate level**	Disease and its effects with emphasis on etiology and pathogenesis; morphologic change will be correlated with changes in chemical composition and function. Two hours lecture and three hours lab per week. Prerequisite: DMP 720.
DMP 867	Advanced Topics in Comparative Pathology / **Mosier**	1-3	Fall, Spring, Summer / by appointment.	**Graduate level**	Selected topics to assist pathology majors in their area of specialization. Prerequisite: DMP 852 and DMP 863.
DMP 870	Seminar in Pathobiology (MS) - Journal Club / **Chengappa (MAN), Larson (Olathe)**	1	Fall, Spring, Summer.	**Graduate level**	Oral presentations on topics in epidemiology, food safety, immunology, microbiology, molecular biology, parasitology, pathology, and toxicology. Reports will include critical review of the relevant literature; experimental design and methodology; and presentation and critical evaluation of data. The course is for MS students.
DMP 871	Molecular Diagnostics of Infectious Diseases / **Ganta**	3	Fall / **Odd years (tentative)**.	**Graduate level**	This Graduate level is aimed at reviewing, and evaluating new and improved molecular diagnostic methods for infectious diseases. Prerequisite: BIOCH 521. Students without the prerequisites must have the permission of the course coordinator.

DMP 875	Veterinary Public Health / **Mulcahy**	2	Spring	**Graduate level / VDMP 875 Crosslisting**	The linkages between human health and animal health and production. Topics include zoonotic disease, emerging and exotic animal diseases, disaster preparedness, regulatory and community health issues focusing on the role of the veterinarian in all. Two hours lecture per week. Prerequisites: Third-year standing in the CVM and DMP 818.
DMP 878	Application of Flow Cytometry / **TBA**	variable / 1-3	Fall, Spring/ **Inactive**.	**Graduate level**	Theory and practical experience in the use of flow cytometry in diagnosis and research. Prerequisite: Graduate standing.
DMP 880	Problems in Pathobiology (MS) / **Nagaraja (MAN), Mulcahy (Distance)**	variable / 1-6	Fall, Spring, Summer.	**Graduate level**	A special problems course for graduate students working toward the MS degree in Pathobiology. The course is generally problems- or techniques-based in any of the disciplines in the Pathobiology program, conducted under the supervision of a graduate faculty in the Pathobiology Graduate Program.
DMP 888	Globalization, Cooperation, & The Food Trade / Kaster **(Distance / Olathe)**	1	Spring, Summer (distance), Fall.	**Graduate level**	This course will focus on issues and topics including, but not limited to, disputes in the international agricultural and food trade, new concepts such as Food and Agriculture Security, and the food-related challenges faced by wealthy as well as economically poor societies.
DMP 893	Principles of Biosafety & Biocontainment / **Vanlandingham**	2	Fall, Spring, Summer / **inactive**.	**Graduate level**	no course description
DMP 895	Topics in Pathobiology (MS) / **Nagaraja**	variable / 0-18	Fall, Spring, Summer.	**Graduate level**	A special course for graduate students working toward the MS degree. Lectures, readings, and discussion of topics of current interest in any of the disciplines of Pathobiology.
DMP 895-B	Topics in Pathobiology (MS) / Advanced Design and Analysis of Randomized Trials **(Cernicchiaro)**	3	Fall.	**Graduate level**	A special course for graduate students working toward the MS degree. Lectures, readings, and discussion of topics of current interest in any of the disciplines of Pathobiology.
DMP 898	MS Research in Pathobiology / Independent study / by appointment / **Nagaraja**	2	Fall, Spring, Summer.	**Graduate level**	A written report of either laboratory-based research, field-based research, or a review paper on a topic in the major field. Prerequisite: Consent of the major professor.

DMP 899	MS Research in Pathobiology / **Mosier (MAN), Adams (Olathe)**	variable / 0-18	Fall, Spring, Summer.	**Graduate level**	For graduate students working towards the MS degree. Individual research in the fields of epidemiology, food safety, immunology, microbiology, molecular biology, parasitology, pathology, and toxicology.
DMP 910	Pathgenic Mechanisms of Viruses / TBA	3	Spring / Odd years (inactive).	**Graduate level**	The goals of the course are to learn various pathogenic mechanisms (virus-host interactions) of selected virus (RNA and DNA) and Prion diseases. The course will cover the molecular, cellular and immunological bases of pathogenesis both in vitro and in animal models. Prerequisite: BIOL 730 and BIOL 670.
DMP 925	Rumen Microbiology / **Nagaraja**	3	Spring / **Odd years**.	**Graduate level / Crosslisted w AS&I**	Lecture dealing with the microorganisms of the rumen, their habitat, diversity, structure, interactions, and biochemical activities. Techniques for enumeration, isolation and identification of ruminal microorganisms. Prerequisite: BIOL 455
DMP 954	Advanced Epidemiology / **Cernicchiaro**	4	Fall / Even years.	**Graduate level**	Advanced theory and methods for designing, analyzing and interpreting epidemiologic research. Emphasis on observational study design and analysis issues including design identification and optimization, bias recognition and control, and appropriate analytical approaches for epidemiologic data. Prerequisite: DMP 854 and STAT 717, or equivalent training (recommended).
DMP 963	Advanced Molecular Biology of Foodborne Pathogens / **Hardwidge**	2	Fall / **Odd years**.	**Graduate level**	This lecture will meet once a week for 2 hours per period. The first hour of each meeting will consist of brief student presentations of research papers illustrating key concepts presented in the previous lecture. The second hour of each meeting will consist of a lecture on the indicated topic.
DMP 965	Cellular & Molecular Pathology / **TBA**	4	Spring / **inactive**.	**Graduate level**	Biochemistry of the injured cell, relationship of intracellular parasitism to cellular metabolism, metabolic and genetic basis of inherited disease. Prerequisite: BIOCH 755 or BIOL 860.

DMP 970	Seminar in Pathobiology (PhD) - Journal Club / **Chengappa (MAN), Larson (Olathe)**	1	Fall, Spring, Summer.	**Graduate level**	Oral presentations on topics in epidemiology, food safety, immunology, microbiology, molecular biology, parasitology, pathology, and toxicology. Reports will include critical review of the relevant literature; experimental design and methodology; and presentation and critical evaluation of data. The course is for PhD students.
DMP 971	Seminal Papers in Molecular Biology / **Hardwidge**	1	Summer.	**Grad course**	This discussion course will improve graduate student communication, scientific reasoning, and data analysis skills. Students will gain familiarity with the seminal papers of molecular biology that resolved key issues of the central dogma. Key breakthroughs in molecular evolution, microbial genetics, and biotechnology will be discussed. Prerequisite: BIO 670, DMP 712, or DMP 860. Should be registered as an M.S. or Ph.D. student in Veterinary Medicine, biochemistry or biology.
DMP 980	Problems in Pathobiology (PhD) / **Nagaraja**	variable / 1-6	Fall, Spring, Summer / by appointment.	**Grad course**	A special problems course for graduate students working toward a PhD degree in Pathobiology. The course is generally problems- or techniques-based in any of the disciplines in the program, conducted under the supervision of a graduate faculty in the Pathobiology Graduate Program.
DMP 995 A	Topics in Pathobiology (PhD) / Topics vary by student / **Nagaraja**	variable / 0-18	Fall, Spring, Summer.	**Grad course**	A special course for graduate students working toward the PhD degree. Lectures, readings, and discussion of topics of current interest in any of the disciplines of Pathobiology
DMP 995 B	Topics in Pathobiology (MS) Advanced Design and Analysis of Randomized Trials / Topics / Adv Des Analy Random Trial / **Cernicchiaro**	3	Fall.	**Grad course**	A special course for graduate students working toward the PhD degree. Lectures, readings, and discussion of topics of current interest in any of the disciplines of Pathobiology

DMP 999	PhD Research in Pathobiology / **Mosier**	variable / 1-18	Fall, Spring, Summer / by appointment.	**Graduate level / by appt.**	For graduate students working towards the PhD degree in pathobiology. Individual research in the fields of epidemiology, food safety, immunology, microbiology, molecular biology, parasitology, pathology, and toxicology.
VDMP 891	DMP Veterinary Medicine Elective	variable	Fall, Spring.	VetMed Elective	Special topics for veterinary students in the disciplines offered by the department, including: Immunology, Parasitology, Microbiology, Toxicology, Pathology, Epidemiology, Biosafety and Biosecurity, Herd Disease Outbreak Investigation Techniques, Laboratory Animal Science, Laboratory Diagnosis, and Ecotoxicology. Note: Lecture or combination with lab. Prereq: 1st, 2nd, or 3rd year students in Veterinary Medicine.
VDMP 891	Systemic Approach to Infectious Diseases of Animals / coordinator TBD	1	Typically offered Spring.	**Elective / Tentative / currently inactive**	
VDMP 891	Ecotoxicology / **Mosier**	1	Spring /**TENTATIVE**	VetMed Elective	
VDMP 891	Laboratory Animal Science / **Olson**	2	Spring.	VetMed Elective	Prereq: DMP 715
VDMP 891	Laboratory Diagnosis / **Pohlman**	2	Fall.	VetMed Elective	
VDMP 891	Herd Disease Outbreak Investigation Techniques / **Hanzlicek**	3	Summer	VetMed Elective / Topics	
VDMP 891	Backyard Poultry / **Tesfaalem**	1	Fall.	VetMed Elective	
VDMP 891	International Vet Medicine / **Tesfaalem**	variable / 1-3	Fall.	VetMed Elective	