VETERINARY CLINICAL STUDIES - MEDICINE COURSES (VMED)

VMED 6300 Foundational Toolkit I
The Foundational Toolkit I course provides the background material necessary to understand upcoming blocks in the first year of the veterinary curriculum. Content includes the role of veterinarians in society and One Health, fundamental concepts in population/production medicine and its interaction with the environment and human health, fundamental concepts in biochemistry, cell biology, developmental biology, histology, and molecular biology, basic anatomical principles, scientific and medical terminology, and foundations in the basis of image formation and interpretation of radiography and ultrasonography.
7 Credit Hours

VMED 6301 Foundational Toolkit II
The Foundational Toolkit II course provides background material necessary to understand the Spring semester blocks. Content builds on the Foundational Toolkit I and includes additional fundamental concepts in biochemistry, cell biology, and molecular biology and an introduction to cross-sectional imaging principles.
3-7 Credit Hours

VMED 6302 Capstone I
The Capstone I course offers a period at the end of the first semester for students to apply and integrate the information they have learned in the preceding blocks and courses. While the assessments at the end of each block will focus largely on recall of information, assessments during the Capstone will emphasis higher-order thinking skills and real-world applications. Students will be involved in integrated case scenarios, reflective journaling of elective experience that related to curriculum, review for NAVLE, interdisciplinary evidence based medicine discussions, and critical thinking assessments. The Capstone period will also permit time for remediation of students who have been identified as requiring intervention.
1-4 Credit Hours

VMED 6303 Capstone II
The Capstone II course provides an opportunity to integrate the material presented over the course of the year and evaluate both the students and teaching for improvement. The general purpose of a capstone course is to revisit information in a different context that integrates concepts covered over the year. This course also integrates curriculum across all blocks and courses and encourages multidisciplinary skills relevant to creating competent veterinarians. It also allows for different forms of learning and demonstration of critical thinking and mastery of concepts by utilizing cases, testing assessments, poster presentations, and journaling. An elective experience provides time for exploration that is structured and can directly reflect back on material provided in a way that is relevant. There are also options for students who want to create something themselves if they do not wish to go through the matching process as requests are not guaranteed. Attendance is mandatory at all activities and is essential for learning. Students can expect a full day of in person learning each day of the course.
3-5 Credit Hours

VMED 6304 The Hippiatrika: Becoming a Veterinary Clinician I
Hippiatrika I is the first in a series of four courses that take place in the fall and spring of the first two years of the curriculum. Named after one of the earliest collections of writings on veterinary medicine from the 5th and 6th century AD, the Hippiatrika series emphasizes the art and practice of clinical veterinary medicine, focusing on hands-on clinical skills as well as material associated with population medicine, One Health, communication, collaboration, professionalism, veterinary medical ethics, and regulation and finance. When applicable, course material is horizontally integrated with concurrent blocks.
5-7 Credit Hours

VMED 6305 The Hippiatrika: Becoming a Veterinary Clinician II
Hippiatrika II is the second in a series of four courses that take place in the fall and spring of the first two years of the curriculum. Named after one of the earliest collections of writings on veterinary medicine from the 5th and 6th century AD, the Hippiatrika series emphasizes the art and practice of clinical veterinary medicine, focusing on hands-on clinical skills as well as material associated with population medicine, One Health, communication, collaboration, professionalism, veterinary medical ethics, and regulation and finance. When applicable, course material is horizontally integrated with concurrent blocks.
5-7 Credit Hours

VMED 6306 Of Clouds and Clocks: Becoming a Veterinary Scientist I
Of Clouds and Clocks I is the first in a series of courses spanning the first two years of the core veterinary curriculum, named in homage to Karl Popperâs philosophy that the world is divided into mechanisms that are predictable (âclocksâ) and ones that are unpredictable ("cloudsâ). This analogy sums up the difficulties of applying science to complex organisms with complex diseases, which is a vital skill for every clinician-scientist. This semester will focus on the role of basic science in the practice of veterinary medicine and introduces basic concepts of clinical epidemiology. Lectures and group-based learning allow students to integrate science with clinical concepts from parallel courses.
2-3 Credit Hours

VMED 6307 Of Clouds and Clocks: Becoming a Veterinary Scientist II
Of Clouds and Clocks II is the second in a series of courses spanning the first two years of the core veterinary curriculum, named in homage to Karl Popperâs philosophy that the world is divided into mechanisms that are predictable (âclocksâ) and ones that are unpredictable ("cloudsâ). This analogy sums up the difficulties of applying science to complex organisms with complex diseases, which is a vital skill for every clinician-scientist. This semester will focus on fundamental statistics, the hierarchy of evidence and design and assessment of clinical studies. Lectures and group-based learning allow students to integrate science with clinical concepts from parallel courses.
2-5 Credit Hours

VMED 6308 Support & Movement I
The Support and Movement block in year 1 of the core curriculum introduces the musculoskeletal system from a comparative perspective and will cover the normal development, gross and micro anatomy, physiology and function of bones and muscles, including their cellular, extracellular and molecular components. It will impart foundational biological and clinical knowledge about the musculoskeletal system and ask students to apply this knowledge. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
8 Credit Hours

VMED 6309 Circulation & Respiration I
The Circulation and Respiration block in year 1 of the core curriculum will cover the normal development, gross and micro anatomy, physiology, function, and clinical assessment of the cardiovascular and respiratory systems. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
5-7 Credit Hours

VMED 6310 Reproduction & Development I
The Reproduction and Development block in year 1 of the core curriculum will cover the normal development, gross and micro anatomy, physiology, function, and clinical assessment of the reproductive system. Emphasis is placed on how structure lends to reproductive function, mechanisms of sexual development, the reproductive endocrine axis, reproductive cyclicity, sexual behavior, genetics, the processes of fertilization through parturition, and lactation. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
4-7 Credit Hours

VMED 6311 Defense & Barriers I
The Defense and Barriers block in year 1 of the core curriculum will cover the foundational understanding of the immune system, its innate and adaptive functions, its cellular and molecular participants and its sites of activity, including the primary, secondary organs as well as the barrier and mucosal organs (e.g. skin and gut). Students will also be introduced to the microbes that interact with the immune system, as well as the biological basis for the ability of microbes to induce and/or evade an immune response. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
4-7 Credit Hours

VMED 6312 Digestion & Metabolism I
The Digestion and Metabolism block in year 1 of the core curriculum will offer students an understanding of how the body processes nutrients, and how they are utilized to create energy. It will cover the normal development, gross and micro anatomy, physiology, function, and clinical assessment of the digestive tract for the domestic and exotic species as well as core nutritional concepts including nutrient requirements, feeds and feeding, macronutrient and micronutrient metabolism, and fundamentals of ration formulation. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
4-7 Credit Hours

VMED 6313 Elimination & Detoxification I
The Elimination and Detoxification block in year 1 of the core curriculum focuses on the detoxification and elimination roles of the hepatobiliary and urinary systems. It will cover the normal development, gross and micro anatomy, physiology, function, and clinical assessment of these systems. Topics covered include hepatic processing and removal of toxins, the urea cycle, renal mechanisms of fluid homeostasis, and the role of the kidney in acid-base balance. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
2-5 Credit Hours

VMED 6314 Cognition, Senses & Responses I
The block, Cognition, Senses, and Responses I, introduces the fundamentals of neuroscience. It centers on the anatomy and physiology of the nervous system, beginning with the basic properties of neurons and glia and culminating in the complex neurological pathways that regulate animal life and health. In this block, you will understand the neurological processes necessary to maintain animal life, sense and respond to a changing environment, and learn. You will also understand how to modulate the nervous system using medications that block sensation, alter consciousness, and modify behavior. The block provides a comprehensive understanding of the nervous system and the processes involved, and a foundation for understanding the diseases resulting from their malfunction, which will be covered in the second year of this curriculum.
4-7 Credit Hours

VMED 6400 Foundational Toolkit III
The Foundational Toolkit III course provides the background material necessary to understand upcoming blocks in the second year of the veterinary curriculum that focuses on the diagnosis and treatment of disease. Content includes fundamentals of pharmacology and toxicology, neoplasia and inflammation, and routine laboratory diagnostic techniques.
5-9 Credit Hours

VMED 6401 Foundational Toolkit IV
The Foundational Toolkit IV course provides background material necessary to understand the Spring semester blocks. Content builds on the Foundational Toolkit III and includes further diagnostic tools and advanced imaging modalities.
3-9 Credit Hours

VMED 6402 Capstone III
The Capstone III course offers a period at the end of the first semester for students to apply and integrate the information they have learned in the preceding blocks and courses. While the assessment in the tests at the end of modules will focus largely on recall of information, assessments during the Capstone will emphasis higher-order thinking skills and real-world applications. Students will be involved in integrated case scenarios, reflective journaling of elective experience that related to curriculum, review for NAVLE, interdisciplinary evidence based medicine discussions, and critical thinking assessments. The Capstone period will also permit time for remediation of students who have been identified as requiring intervention.
1-6 Credit Hours

VMED 6403 Capstone IV
The Capstone IV course offers a period at the end of the second semester for students to apply and integrate the information they have learned in the preceding blocks and courses. While the assessment in the tests at the end of modules will focus largely on recall of information, assessments during the Capstone will emphasis higher-order thinking skills and real-world applications. Students will be involved in integrated case scenarios, reflective journaling of elective experience that related to curriculum, review for NAVLE, interdisciplinary evidence based medicine discussions, and critical thinking assessments. The Capstone period will also permit time for remediation of students who have been identified as requiring intervention.
2-5 Credit Hours

VMED 6404 The Hippiatrika: Becoming a Veterinary Clinician III
Hippiatrika III is the third in a series of four courses that take place in the fall and spring of the first two years of the curriculum. Named after one of the earliest collections of writings on veterinary medicine from the 5th and 6th century AD, the Hippiatrika series emphasizes the art and practice of clinical veterinary medicine, focusing on hands-on clinical skills as well as material associated with population medicine, One Health, communication, collaboration, professionalism, veterinary medical ethics, and regulation and finance. When applicable, course material is horizontally integrated with concurrent blocks.
4-8 Credit Hours

VMED 6405 The Hippiatrika: Becoming a Veterinary Clinician IV
Hippiatrika IV is the third in a series of four courses that take place in the fall and spring of the first two years of the curriculum. Named after one of the earliest collections of writings on veterinary medicine from the 5th and 6th century AD, the Hippiatrika series emphasizes the art and practice of clinical veterinary medicine, focusing on hands-on clinical skills as well as material associated with population medicine, One Health, communication, collaboration, professionalism, veterinary medical ethics, and regulation and finance. When applicable, course material is horizontally integrated with concurrent blocks.
4-8 Credit Hours

VMED 6406 Of Clouds and Clocks: Becoming a Veterinary Scientist III
Of Clouds and Clocks III third in a series of courses spanning the first two years of the core veterinary curriculum, named in homage to Karl Popperâs philosophy that the world is divided into mechanisms that are predictable (âclocksâ) and ones that are unpredictable ("cloudsâ). This analogy sums up the difficulties of applying science to complex organisms with complex diseases, which is a vital skill for every clinician-scientist. This semester will focus on integrating evidence-based clinical research in the practice of veterinary medicine. Lectures and group-based learning allow students to integrate science with clinical concepts from parallel courses.
1-5 Credit Hours

VMED 6407 Of Clouds and Clocks: Becoming a Veterinary Scientist IV
Of Clouds and Clocks IV is the final course in a series of courses spanning the first two years of the core veterinary curriculum, named in homage to Karl Popperâs philosophy that the world is divided into mechanisms that are predictable (âclocksâ) and ones that are unpredictable ("cloudsâ). This analogy sums up the difficulties of applying science to complex organisms with complex diseases, which is a vital skill for every clinician-scientist. This semester will focus on integrating evidence-based clinical research in the practice of veterinary medicine. Lectures and group-based learning allow students to integrate science with clinical concepts from parallel courses.
1-6 Credit Hours

VMED 6408 Support & Movement II
The Support and Movement block in year 2 of the core curriculum covers the pathology (gross, histopathologic, and clinicopathologic), diagnosis, medical treatment, and surgical interventions for diseases of the musculoskeletal system. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
5-8 Credit Hours

VMED 6409 Circulation & Respiration II
The Circulation and Respiration block in year 2 of the core curriculum covers the pathology (gross, histopathologic, and clinicopathologic), diagnosis, medical treatment, and surgical interventions for diseases of the cardiovascular and respiratory systems. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
5-9 Credit Hours

VMED 6410 Reproduction & Development II
The Reproduction and Development block in year 2 of the core curriculum covers the pathology (gross, histopathologic, and clinicopathologic), diagnosis, medical treatment, and surgical interventions for diseases of the reproductive system. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
3-7 Credit Hours

VMED 6411 Defense & Barriers II
The Defense and Barriers block in year 2 of the core curriculum covers the pathology (gross, histopathologic, and clinicopathologic), diagnosis, medical treatment, and surgical interventions for diseases of the hematolymphoid system and skin/mucosal barriers. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
3-7 Credit Hours

VMED 6412 Digestion & Metabolism II
The Defense and Metabolism block in year 2 of the core curriculum covers the pathology (gross, histopathologic, and clinicopathologic), diagnosis, medical treatment, and surgical interventions for diseases of the digestive system. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
4-8 Credit Hours

VMED 6413 Elimination & Detoxification II
The Elimination and Detoxification block in year 2 of the core curriculum covers the pathology (gross, histopathologic, and clinicopathologic), diagnosis, medical treatment, and surgical interventions for diseases of the hepatobiliary and urinary systems. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.
3-6 Credit Hours

VMED 6414 Cognition, Senses & Response II
The Cognition, Senses and Response block in year 2 of the core curriculum covers the pathology (gross, histopathologic, and clinicopathologic), diagnosis, medical treatment, and surgical interventions for diseases of the central and peripheral nervous systems, sensory organs, and behavior. Blocks will use a combination of lectures, laboratories, group assignments, seminars, and out of class projects to teach and reinforce the information. Case examples will be used to help the students better understand, research, integrate and think about the concepts taught in the classroom and laboratory.Â
4-8 Credit Hours

VMED 7025 Patient Care
Students will work collaboratively with nursing staff at both the NBC and Ryan Hospitals to develop confidence in patient examination skills and treatment preparation and administration. This clinical rotation emphasizes the development of technical, professional, interprofessional, and clinical assessment skills essential for veterinarians to effectively care for and communicate about both large and small animal patients. Interactive topic rounds are offered on most weekdays and are led by clinical staff. Clinical responsibilities, including weekday and weekend coverage, are shared among members of the rotation team.
9 Credit Hours

VMED 8155 Anesthesiology Service
In this rotation, students will gain experience in planning and performing sedation and anesthesia in small and large animal species. Students will be responsible for anesthetizing animals presented to the anesthesia services in both teaching hospitals under the supervision of the Anesthesia staff. Students will be scheduled for "on-call" night and weekend duty. Specific clinical objectives include physical and chemical restraint, regional and general anesthesia techniques and operation and use of various anesthetic monitoring devices.
9 Credit Hours