VMED 6000 Introduction to Clinical Veterinary Medicine I
This course provides an introduction to clinical veterinary medicine for first year veterinary students, and includes sessions on management, restraint and physical examination of small animal patients. Laboratory sessions provide the opportunity for practicing physical examination and restraint of animals in supervised small groups. This course will be graded P/F.
Two Term Class, Student must enter first term; credit given after both terms are complete
2 Credit Hours

VMED 6010 Introduction to Clinical Veterinary Medicine II
Using a case-based organ/system approach, this course provides an introduction to the practice of clinical veterinary medicine in companion animals, and provides an introduction to special species companion animal, laboratory animal, and captive and wild animal veterinary practice. The course also introduces the concept of evidence-based medicine. Laboratory sessions provide exposure to auscultation, behavior abnormalities, clinical rounds discussion, grief management, nursing techniques and special species companion animal and laboratory animal examination.
4 Credit Hours

VMED 6020 Introduction to Clinical Veterinary Medicine III
This course provides an introduction to equine and production animal veterinary medicine for first year veterinary students, and includes sessions on management, restraint and physical examination of large animal patients. Laboratory sessions provide the opportunity for practicing physical examination and diagnostic procedures on horses and production animal species.
4 Credit Hours

VMED 6030 Introduction to Radiology
This lecture course is designed to provide the fundamental principles of clinical imaging in veterinary medicine as they pertain to physics and instrumentation. The emphasis is on radiography, but principles of ultrasonography, computed tomography, magnetic resonance imaging and nuclear medicine are also discussed. Topics include production of diagnostic images, radiation safety, differences between the various imaging modalities and some features of normal radiographic anatomy of small animals (thorax and abdomen). The course includes a two-hour mandatory laboratory, focusing on case presentations with emphasis on thoracic and abdominal radiography.
2 Credit Hours

VMED 6040 Veterinary Medical Genetics
The objective of this course is to provide a background for understanding the underlying mechanisms, distribution, and control of genetic disease in domestic animals. Emphasis will be on concepts and information useful on a clinical level. Problem-based learning exercises integrate the concepts presented in the course.
2 Credit Hours

VMED 6050 Nutrition
Fundamental principles of nutrition are the background of recommendations for feeding various classes of animals. Types of foodstuffs and their nutrient composition are evaluated in relation to nutrient requirements, voluntary intake and food preferences of domestic species. Feeding programs for nutritional management of animal classes commonly encountered in veterinary medicine are discussed, and examples of clinical nutrition applications are presented.
3 Credit Hours

VMED 6060 Principles of Epidemiology
The fundamentals of descriptive, analytic, and clinical epidemiology will be covered as they relate to both population and individual animal problems in veterinary medicine. The major aims of the course are to provide an analytic basis for clinical decision making and the ability to interpret the veterinary literature for application in a practice setting. These aims will be accomplished by using examples to illustrate the epidemiologic approach to studying infectious and non-infectious disease, and in clinical decision-making.
2 Credit Hours

VMED 6070 Veterinary Public Health
This course examines the nature and scope of animal-human interactions with emphasis on the consequences of this relationship from an epidemiologic viewpoint. Included are the zoonotic diseases, those naturally transmitted from animals to man, and the role of pets in society. The traditional involvement of veterinarians in prevention and control of food borne diseases and in public health practice will also be discussed.
3 Credit Hours

VMED 6080 Introduction to Poultry, Swine, and Dairy Medicine
This course will cover clinical problem solving for disease diagnosis, treatment and control. In addition, current topics of interest in food animal medicine will be discussed. These include food safety, regulatory medicine, environmental impact, welfare issues and opportunities for food animal veterinarians. Class time will be used for both lecture and discussion. All material for quizzes will be presented in class. The grade for the course will be based on weekly quizzes.
2 Credit Hours

VMED 6090 Infectious & Metabolic Diseases
A core course of lectures on infectious and metabolic diseases of domestic animals. The topics in this course include: Rabies, Lymphosarcoma, Blue Tongue, Parturient Paresis, Listeriosis, Anthrax, Botulism, Leptospirosis, Canine Distemper, and many other polysystemic diseases.
7 Credit Hours

VMED 6100 Clinical Reproduction
Course covers reproduction in large and small domestic species, and includes the estrous cycle, heat detection, pregnancy, pregnancy loss, obstetrics, parturition, the postpartum period, male and female reproductive physiology, behavior, breeding soundness examination, and fertility problems. A two-hour problem solving session with the class divided into small groups will be held to discuss clinical cases. Grades will be based on a mid-term and a cumulative final examination.
5 Credit Hours
VMED 6110 Veterinary Medicine/Surgery I
Principles of diagnosis, including radiology, and medical and surgical management of infectious and noninfectious diseases of the head, neck and chest, including diseases of the oral structures, eye, ear, nose and throat, esophagus, lung, heart, pleura and chest wall. Course material is broken down in 4 sections covering ophthalmology, cardiology, diseases of the head and neck and non-cardiac intrathoracic diseases. An examination covering the lecture material is administered after each section.
9 Credit Hours

VMED 6120 Veterinary Medicine/Surgery II
This portion of the Medicine/Surgery core course deals with the pathophysiology, clinical features, and medical and surgical treatment of hematologic, endocrine, nephrologic, urogenital and oncologic disorders.
9 Credit Hours

VMED 6130 Veterinary Medicine/Surgery III
This core course covers the important medical and surgical diseases of the gastrointestinal system and the medical aspects of neurological diseases. Specific disease topics will include noninfectious gastrointestinal disorders; hepatobiliary, pancreatic and splenic disorders; and central and peripheral neurological diseases of domestic animals.
8 Credit Hours

VMED 6150 Dermatology
A core course of lectures discussing the infectious, ectoparasitic, allergic, autoimmune and metabolic cutaneous disorders of small animals, exotics and horses. Diseases are discussed with particular emphasis on pathogenesis, clinical recognition and treatment. Methods of diagnosis also are stressed so that the student is prepared to recognize and treat the various dermatoses met in the clinical year.
3 Credit Hours

VMED 6160 Clinical Animal Behavior
Behavior problems are among the most frequent reasons for surrender and euthanasia of pets. In this course we will discuss the most common behavior problems of dogs and cats, with an emphasis on diagnosis and treatment using both behavior modification and drug therapy. Prognosis and safety issues will also be discussed. Attention will be paid to the thought process used in working up and/or preventing behavioral disorders.
1 Credit Hour

VMED 6170 Veterinary Ethical Issues
The course goal is to enhance students overall ethical literacy. The course involves a combination of lectures on ethical theory and methodology, and group discussions of ethical case studies drawn from various branches of veterinary practice. The course will be graded as Pass/Fail and full attendance by all students is required unless otherwise pre-authorized by the course organizer.
1 Credit Hour

VMED 6180A Introduction to Clinical Veterinary Medicine IV
This year-long course for second year veterinary students is designed as a reinforcement of the first year introduction to clinical veterinary medicine series (VMED 6000, VMED 6010, 6020) and as a transition to the clinical year rotations. The emphasis is on practical experiences in our hospitals that will increase your clinical and technical skills as you familiarize yourselves with the hospitals facilities, policies and operations. The course will include approximately 11 hours of lecture; 32 hours of small-group practical clinical sessions per student (NBC) and 29 hours of small-group practical clinical sessions per student (MJR-VHUP). This will be a graded course - A, B, C or F.
Two Term Class, Student must enter first term; credit given after both terms are complete
2 Credit Hours

VMED 6180B Introduction to Clinical Veterinary Medicine IV
This year-long course for second year veterinary students is designed as a reinforcement of the first year introduction to clinical veterinary medicine series (VMED 6000, VMED 6010, 6020) and as a transition to the clinical year rotations. The emphasis is on practical experiences in our hospitals that will increase your clinical and technical skills as you familiarize yourselves with the hospitals facilities, policies and operations. The course will include approximately 11 hours of lecture; 32 hours of small-group practical clinical sessions per student (NBC) and 29 hours of small-group practical clinical sessions per student (MJR-VHUP). This will be a graded course - A, B, C or F.
Two Term Class, Student must enter first term; credit given after both terms are complete
2 Credit Hours

VMED 6190 Emerging and Exotic Diseases
This course will be offered on the internet through the Association of American Veterinary Medical Colleges web site. The Center for Food Security and Public Health at Iowa State University maintains the course and operates the learning management system. The course is part of a larger effort by US Department of Agriculture to improve awareness of and preparedness for foreign animal disease incursions among veterinarians and veterinary students. The ability of a veterinarian to suspect and assist in the diagnosis of a foreign animal disease in livestock or companion animals is crucial to safeguarding Americas animals and agricultural sector and to protecting public health. In addition, the course also aims to convey a more comprehensive understanding of the role of accredited veterinarians in world agriculture. Parts of this course will be required training for subsequent USDA veterinary accreditation of new graduates. There will be a mandatory one hour session to introduce the course site, objectives, materials and requirements. The course site comprises six overview topics; four accreditation modules; nineteen case scenarios and twenty infectious disease inquiries. There are short tests associated with the various sections and students are required to score at least an 80% on each test. Students can take the test multiple times if needed to achieve that score. In addition to the course per se, there are numerous links to supplementary materials.
2 Credit Hours
VMED 6200 Introduction to Clinical Veterinary Medicine V

This course will comprise 8 hours of lecture/classroom exercises and discussion per student in addition to a series of online tutorials. Two of the 8 hours of lecture time will be devoted to orientation and trouble-shooting sessions to help students access and complete the online tutorials. Students are expected to complete the online tutorials outside of the classroom setting. The online tutorials will demonstrate how to navigate the hospital computer systems at both campuses so that students will be familiar with them prior to entering the clinics in their fourth year. The material presented in this course will build upon principles learned in previous ICVM courses, specifically by providing further instruction on and practice of written and verbal communication skills and by building upon the orientation to the teaching hospitals provided in ICVM IV. After completing this course, students should be able to: - Describe and use key aspects of client communication skills that are essential in the veterinary medical setting. - Recognize and interpret common aspects of non verbal communication and understand how their non verbal communication can be used to improve their encounters with clients. - Understand and demonstrate the basic elements of a written discharge summary. - Navigate and utilize the electronic hospital systems on both campuses.

Fall

2 Credit Hours

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.

9 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.

6 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 emphasize 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.

4 Credit Hours

VMED 6303 Capstone II

The Capstone II 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 assessments at the end of each block will focus largely on recall of information, assessments during the Capstone will emphasize 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.

4 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.

6 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.

6 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 Popper’s philosophy that the world is divided into mechanisms that are predictable (“clocks”) and ones that are unpredictable (“clouds”). 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.

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 Popper’s philosophy that the world is divided into mechanisms that are predictable (“clocks”) and ones that are unpredictable (“clouds”). 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.

4 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.
6 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.

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 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 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.

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.
6 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 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 emphasize 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.
4 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 emphasize 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.
4 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.
6 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.
6 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 Popper’s philosophy that the world is divided into mechanisms that are predictable (‘clocks’) and ones that are unpredictable (‘clouds’). 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.
3 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 Popper’s philosophy that the world is divided into mechanisms that are predictable (‘clocks’) and ones that are unpredictable (‘clouds’). 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.
4 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.
6 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.
7 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.
4 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.
4 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.
6 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.
4 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.
6 Credit Hours