VCSP 630 Hematopoiesis
This course aims to correlate clinical and basic science in comparative hematology. Faculty from the Veterinary and Medical Schools will present recent developments in clinical medicine and basic research of disorders of blood cells, including transfusion medicine, erythrocyte defects, myelodysplasia, transplantation, cytokines, etc. Informal lecture presentations will allow for ample discussions with instructors. Attendance, participation in class and a paper on a suitable topic of hematology submitted at the end of the course will make up part of the grade for this course. The written review and discussion of an original study paper will serve also as one of the clinical competency requirements.
Taught by: Dr. U. Giger and Staff
Prerequisites: Prerequisites: 1st and 2nd year core courses
Activity: Lecture
2 Credit Hours
Notes: NOT OFFERED DURING 2017-2018

VCSP 632 Diagnosis of Common Veterinary Intoxications
The diagnosis of poisoning in small animals has become an important part of Veterinary Medicine. All parts of Veterinary education are used in making diagnoses and formulating treatment of the poisoned animal patient. Thus, the course involves the integration of preclinical and clinical subjects, rather than simply the study of toxicology. The instructors will provide detailed descriptions of cases from the Emergency Service files, integrated with the more typically academic aspects of toxicology. A variety of common toxins will be discussed including ethylene glycol, lead, zinc, organophosphates, rodenticide anticoagulants, cholecalciferol and non-steroidal anti-inflammatory drugs. The format for this course will be creative and include interactive lectures and discussions. The major emphasis of the course will be the clinical diagnosis and clinical management of intoxicated patients utilizing basic physiological and pharmacologic principles.
Taught by: Dr. K. Drobatz and Staff
Activity: Lecture
2 Credit Hours
Notes: Limitations: Minimum of 10 students

VCSP 635 Introduction to Companion Avian Medicine
This course is designed to provide the future veterinarian with the tools to evaluate, diagnose, and treat avian species in clinics and beyond. Although the course will mainly focus on common psittacine species kept as pets, information on columbiform and passerine species will be provided as well. Topics covered will include pet parrot taxonomy, husbandry, nutrition, clinical examination, common infectious diseases, and practical diagnostic and surgical techniques. The final grade is based on attendance (students with 3 unexcused absences will receive a penalty to their grade) and completion of an in-class final examination. Submission of a course evaluation at the end of the course is required for a grade.
Taught by: Dr. N. Wyre and Staff
Prerequisites: Prerequisites: 1st and 2nd Year Core Courses
Activity: Lecture
2 Credit Hours

VCSP 636 Introduction to Reptile and Amphibian Medicine
This course is designed to provide the future veterinarian with the tools to evaluate, diagnose, and treat captive reptiles and amphibians in clinics and private practice, zoological institutions, and herpetological collections. This course will focus on the more common species kept as pets. Topics covered will include captive husbandry, basic herpetology, nutrition, clinical examination, common infectious and noninfectious diseases, surgery and anesthesia, diagnostic and treatment techniques. The final grade is based on attendance (students with 3 unexcused absences will receive a penalty to their grade) and completion of an in-class final examination. Submission of a course evaluation at the end of the course is required for a grade.
Taught by: Dr. L. Latney and Staff
Prerequisites: Prerequisites: 1st and 2nd Year Core Courses
Activity: Lecture
2 Credit Hours

VCSP 637 Professional Foundations
Includes: 1) making the transition from student to employed veterinarian (resumes, cover letters/letters of intent, interviews, and job selection); 2) personal finance and investment strategies; 3) negotiation skills; 4) stress management; 5) evaluating disability insurance and understanding basic retirement planning options to know what to ask in an interview as part of your benefit plan; 6) time management & goal planning and 7) workshops on obtaining internship or a residency, and (b) Interview Role-Playing/Communication skills. Students are required to submit detailed personal budgets for their first year after graduation and a typewritten resume or curriculum vitae. To receive an "A" students also must submit a 3-year personal, professional, and financial plan. Course notes will be distributed at the first class session.
Taught by: Dr. M. Bryant and Staff
Activity: Lecture
2 Credit Hours
VCSP 638 Legal Issues for Veterinarians
Course is a broad overview of the legal issues veterinarians face on a
daily basis, including legal constraints on practice; overview of laws
regulating animals (including laws specific to Pennsylvania); divorce and
custody battles; illegal drug compounding; internet pharmacies; lemon
laws; pet health insurance; vaccination and liability; negotiating and
understanding the employment relationship; veterinary malpractice and
state board investigations; responding to client complaints; importance
of medical records/informed consents; and, applied professional ethics
with clients and colleagues including study of social media. A course
hand-out will be provided. Testing of students will be through the use of 2
homework assignments. Attendance mandatory.
Taught by: Dr. C. Vite and Staff
Activity: Lecture
2 Credit Hours

VCSP 641 Small Animal Pediatrics
The objective of this course is to further familiarize the student with
the small animal pediatric patient and the proper approach to clinical
diagnosis. Lectures are complemented with case reports which serve as
a basis for small group discussions. Emphasis is placed on integration of
new and previously acquired knowledge to construct differential
diagnoses when presented with appropriate historical data and physical
as well as laboratory findings. Diagnostic tests and therapeutic regimes
for various conditions are discussed in the context of these cases.
Grading is based upon attendance, participation in case discussions and
performance at a final take home exam.
Taught by: Dr. M. Casal and Staff
Prerequisite: Prerequisites: 1st-3rd Year Core Medicine Courses
Activity: Lecture
2 Credit Hours
Notes: Limitations: 40 Students

VCSP 642 Topics in Neurology
This seminar series will stress broad topics, the majority to be selected
by the students, which relate to clinical neurology or neuroscience in
general. Seminar topics will be selected and presented by students. The
course grade (Pass/Fail) is based on class participation.
Taught by: Dr. C. Vite and Staff
Prerequisites: Prerequisites: 1st, 2nd, 3rd Year Core Medicine Courses
Activity: Lecture
2 Credit Hours
Notes: Limitations: Min. 8 students; Max. 20 students. CONFLICT:
Possible conflict with VPTH641 Laboratory Animal Medicine

VCSP 643 Small Animal Clinical Nutrition
The first half of the small animal nutrition course will be devoted to:
(1) information on feeding normal dogs and cats for maintenance
and the prevention of disease and (2) the pet food industry, including
labeling, regulation and laboratory on the evaluation of pet foods.
The second half of the course will examine the role of dietary manipulation
in the management of a wide variety of canine and feline diseases. The
course format utilizes a combination of individual and group exercises,
discussion, cases, and lectures some of which will require preparation
outside of scheduled class time. Grading will be pass/fail and based on
attendance, class participation and an individual take-home project.
Taught by: Dr. K. Michel and Staff
Prerequisite: Prerequisites: Core Nutrition Course
Activity: Lecture
2 Credit Hours

VCSP 646 Small Animal Surgery
This course will cover selected topics of advanced surgical procedures in
dogs and cats. Emphasis will be given to diseases and conditions where
 treatment usually requires elaborate procedures. Material presented will
involve most major organ systems such as the gastrointestinal tract,
the respiratory tract and the urogenital tract. Furthermore, the skin, the
dermoecnac system, and the peritoneal and pleural cavities will be given
special consideration. Minimally invasive surgery as well as advanced
surgical tools and equipment will also be discussed. The course will be
restricted to what is generally understood as soft tissue surgery.
Taught by: Dr. L. Aronson and Staff
Activity: Lecture
3 Credit Hours

VCSP 647 Small Animal Surgery/Anesthesia Laboratory
The class is divided into 2 groups. Building on the Core Anesthesia
and Surgery laboratory course, this course provides the student with
experience as assistant surgeon, surgeon and anesthetist while
performing exploratory laparotomy and hysterectomy in cats. The cats
are provided by an animal shelter and are returned to the shelter for
adoption following surgery. Students enrolled in the course, working in
teams of three, are responsible for examination and veterinary care
(under supervision) at least daily while the cats are at the Veterinary
School. There are two additional laboratory sessions. One is a session
during which enterotomy, intestinal anastomosis and other soft-tissue
procedures will be performed by each student on tissues. The other
is an orthopedic procedure session during which pinning and plating
techniques are performed by each student on models.
Taught by: Dr. J. Runge and Staff
Prerequisites: Prerequisites: Passing grade in Core Surgery and
Anesthesia Courses
Corequisite: Postrequirements: Students taking this course must take Small
Animal Orthopedic Surgery Rotation VCSP 811 or VCSP 871
Activity: Lecture
2 Credit Hours
Notes: Limitations: No Add/Drop period; max. of 24 students

VCSP 648 Small Animal Anesthesia
This lecture and discussion course will stress the application of
physiology, pharmacology, clinical pharmacology, and economics to the
problems encountered during the clinical administration of anesthesia.
Taught by: Dr. Juan Pavez and Staff
Prerequisite: Prerequisites: VSUR604 Anesthesia
Activity: Lecture
1 Credit Hour

VCSP 649 Emergency/Critical Care Medicine
Small group case-based discussions pertain to the clinical evaluation
and management of small animal emergency and critical care patients.
Life-threatening abnormalities of the nervous, cardiovascular, respiratory,
dermicane, gastrointestinal, and urinary systems are presented in a
problem-oriented manner. Actual clinical case material is used to
illustrate principles with emphasis placed on the physiology and
pathophysiology of the presenting problem. Monitoring and therapeutic
procedures (both conservative and non-conservative) will be presented.
The grade will be based on a final examination given to small groups at
the end of the course. The examination will be a clinical problem similar
to all the other clinical problems presented in the course. Everyone in the
same group will receive the same grade.
Taught by: Dr. E. Reineke and Staff
Prerequisites: Prerequisites: 1st, 2nd and 3rd Year Core Courses
Activity: Lecture
3 Credit Hours
VCSP 650 Small Animal Dentistry and Oral Surgery
Building on the dentistry and oral surgery information presented in VMED611, Med/Surg I, the lectures cover the spectrum of dental and oral diseases and procedures seen and practiced in small animals. The course is integrated with oral surgery lectures presented in VCSP 648, Small Animal Surgery elective. Although there are normally no laboratory practice sessions included in this course, laboratory practice sessions based on material in this course are included in the Small Animal Dentistry and Oral Surgery clinical rotation (VCSP 817, VCSP 877).
Taught by: Dr. A. Reiter and Staff
Prerequisites: Prerequisites: Core Medicine and Surgery Courses
Activity: Lecture
2 Credit Hours

VCSP 651 Practice Management
Includes establishing a realistic fee schedule; effectively marketing veterinary services; determining how much income a practice owner really makes; the veterinary client's perception of value; establishing a small or mixed animal practice; medical records as a legal defense and to generate income; understanding the vet-pet-client relationship to develop a bond-centered practice; introduction to personnel management and employment law; understanding the Internal Revenue Code, the payment of taxes, and the need for a schedule C to reduce one's tax liability; successfully organizing one's basic business management strategies; and marketing veterinary services. A 300-page notebook and 150 page hard cover book entitled The Art of Veterinary Practice Management will accompany this course and be provided at no charge by a corporate sponsor. The final examination consists of a group project to be completed by 2-4 people using a typical practice management "headache" as the problem to be resolved. Four guest speakers will participate in this course.
Taught by: Dr. D. Eigner and Staff
Activity: Lecture
3 Credit Hours

VCSP 652 Introduction to Shelter Animal Medicine
This course is designed to complement the senior year Shelter Animal Medicine rotation by introducing students to some of the particular problems and issues facing veterinarians who work with animal shelters and animal control facilities. The course will combine lectures and discussion periods, and will involve significant out-of-course reading assignments. Topics covered will include: Husbandry and disease management, pet population dynamics and control, behavior and behavior problems, feral cats, and animal cruelty & neglect. Course grades will be determined by attendance, participation in discussions and a final take home exam.
Taught by: Dr. B. Watson and Staff
Activity: Lecture
2 Credit Hours
Notes: CONFLICT: VPTH 635 Introduction to Fish Diseases

VCSP 654 Small Animal Critical Care Medicine
This course offers a comprehensive overview of several key aspects of critical care medicine. Lectures will primarily use a "case-based" approach with discussion of the physiology of organ function and the pathophysiology of disease, and will highlight state-of-the-art concepts for these exciting patients. The final session will be a "hands-on" laboratory in which the students will work with the monitoring instruments that have been discussed during the course. Evaluation will be based on a take home examination.
Taught by: Dr. D. Silverstein and Staff
Prerequisites: Prerequisites: Core Medicine and Surgery Courses
Activity: Lecture
2 Credit Hours

VCSP 655 Introduction to Wildlife Medicine I
This course is designed to provide an overview of the field of wildlife medicine for first year veterinary students through lectures from veterinarians working in various aspects in wildlife medicine. Wildlife Medicine I will present current issues in environmental monitoring, emerging diseases and public health, disease surveillance and prevention, disease outbreaks and control, captive propagation and species re-introduction, disaster medicine, and wildlife rehabilitation. The format will consist of eight lectures, each approximately one hour in length, and a required two-hour wet lab held at Tri-State facility, the Fri nk Center for Wildlife, in Newark, DE. Optional lectures may be scheduled during the semester based on student interest and speaker availability. Students are expected to attend all required lectures and participate in the wet lab to receive credit for the course. Grades will be based on attendance (50%) and on three worksheets (50%); a five-page paper may be substituted with the approval of the instructor. Opportunities for clinical experience at the Frink Center for Wildlife will be scheduled during the semester; students are expected to sign up in advance and are responsible for their own transportation.
Taught by: Dr. S. Welte and Staff
Activity: Lecture
1 Credit Hour
Notes: Note: This course is a prerequisite for Course VCSP 656

VCSP 656 Introduction to Wildlife Medicine II
This course is designed to provide an introduction to the clinical aspects of wildlife medicine for first year veterinary students through a lecture and wet lab format. Lecture and/or laboratory topics will include zoonotic diseases, diseases of native mammals, marine mammals, reptiles and birds; pathology, physical examination techniques, and introductions to necropsy techniques, fracture immobilization, and emergency care. The format will consist of six lectures, each approximately one hour in length, and three two-hour wet labs. Optional lectures may be scheduled during the semester based on student interest and speaker availability. Students are expected to attend all lectures and participate in the wet labs to receive credit for the course. Grades will be based on attendance (50%) and on three worksheets (50%); a five-page paper may be substituted with approval of the instructor. Opportunities for clinical experience at the Frink Center for Wildlife will be scheduled during the semester; students are expected to sign up in advance and are responsible for their own transportation.
Taught by: Dr. S. Welte and Staff
Prerequisite: Prerequisite: VCSP 655 Introduction to Wildlife I
Activity: Lecture
1 Credit Hour
Notes: Limitations: Maximum of 72 students. This course is graded pass/fail
Note: In case of over enrollment, permission of course organizer is required
VCSP 657 Case Studies in Exotic Companion Animals
This course is designed to allow the student to use what they have learned about special species and put all of the information together to work through a clinical case. The first three weeks will be spent discussing topics in special species medicine. The second and third week will be reviewing and critiquing journal articles in special species medicine. Thereafter, each week a case history will be posted on the course website and the students will come to class to discuss that case. The course instructor will lead the discussions including how to ask the correct history questions and how to interpret the physical examination findings. The class will decide on rule outs, diagnostic testing, and treatment options. During the second to last class, the students will be divided into groups and will be given an unknown case to work out on their own. At the last class meeting, each group will present their findings. Attendance is mandatory since this is a case-discussion class. Missed classes cannot be made up; for each missed class the grade will be lowered. Grades will be based on attendance and participation in the unknown case presentation.
Taught by: Dr. N. Wyre and Staff
Prerequisites: Prerequisites: 1st and 2nd Year Core Courses
Activity: Lecture
2 Credit Hours
Notes: Limitations: Limited to 20 students

VCSP 658 Pet Small Mammal Med/Surg
This introductory course will mainly cover pet rabbits and ferrets with some discussion of rodents and other small mammals seen in veterinary practice. Husbandry, physical examination, diagnostic testing, and treatment techniques of these animals will be presented. The most common health problems and surgeries will be discussed. After this course, the student should be better prepared to see these patients during their clinical rotations and in practice. Student evaluation will be based on a final exam.
Taught by: Dr. L. Latney and Staff
Prerequisites: Prerequisites: 1st and 2nd Year Core Courses
Activity: Lecture
2 Credit Hours

VCSP 659 Small Animal Advanced Cardiology
This course will build on the core cardiology curriculum by introducing a wider range of topics involving cardiovascular disease, treatment, and research in small animals. In-depth topics include diagnosis and treatment of cardiac arrhythmias, correction of congenital heart defects using minimally invasive catheter-based therapies, echocardiography of feline cardiomyopathy, clinical pathophysiology of degenerative mitral valve disease, and a review of the clinical trial evidence that forms the basis of standard treatment recommendations for congestive heart failure. The course is designed for a relatively small number of students so that discussion and interaction with the instructor(s) is facilitated. The course is suitable for students that might be interested in cardiology specialization or research careers as well as for future general practice veterinarians that wish to provide a high level of cardiac care for their patients.
Taught by: Dr. M. Oyama and Staff
Activity: Lecture
1 Credit Hour
Notes: Maximum enrollment 20 students

VCSP 660 Advanced Small Animal Electrocardiography and Arrhythmias
This course will build on the core cardiology curriculum by providing practical experience involving electrocardiographic (ECG) interpretation and the diagnosis and treatment of cardiac arrhythmias in small animals. Specific topics include diagnosis of both supraventricular and ventricular arrhythmias as well as proper selection of antiarrhythmic therapy and an introduction to artificial pacemaker implantation. The course is designed for a relatively small number of students so that discussion and interaction with the instructor(s) is facilitated. The course includes 6 hours of laboratory where students will work through ECG cases in a small group setting. The course is suitable for students that might be interested in cardiology specialization as well as for future general practice veterinarians that wish to provide a high level of cardiac care for their patients.
Taught by: Dr. M. Oyama and Staff
Activity: Lecture
2 Credit Hours

VCSP 666 Shelter Surgical Opportunities I
This course is an introduction to High Quality High Volume (HQHV) surgery in the shelter environment and is based on the Association of Shelter Veterinarians veterinary medical care guidelines for spay-neuter programs. Lecture topics and examinations are delivered online and include an overview of HQHV surgery, patient handling, anesthesia and pain management in the shelter environment, partner protocols, patient monitoring, patient pre-surgical preparation, basic surgical principles and sterilization of the male cat. The lab component of this course consists of two hours of knot laboratory and knot certification followed by six hours at a partner shelter participating in the peri-operative activities, organized as stations, which include physical exam, induction, patient preparation and recovery. The final eight hours are devoted to rotation through the stations and performance of cat castrations under direct supervision. This course is designed to prepare students to pursue castration certification (certification that a student can castrate a male cat without direct supervision, required for Shelter Surgical Opportunities II). This elective can be taken after the Spring semester of first year, including the summer, and grading is pass/fail.
Taught by: Dr. Brittany Watson
Activity: Lecture
1 Credit Hour
Notes: Notes: Ongoing (may be taken after the Spring semester of the 1st year, including summer)
VCSP 667 Shelter Surgical Opportunities II
This course is designed to be a continuation of Shelter Surgical Opportunities I and consists of six hours of online lectures/exam that cover inhalant anesthesia, more advanced knots and suture patterns, sterilization of the female cat, special sterilization cases, emergency procedures in the shelter environment and surgical instruments and pack preparation. Eighteen hours of on-site work at a partner shelter will be devoted to learning to spay and participation in peri-operative activities. Spay participation is designed to incrementally build surgical skills and confidence through the process of students scrubbing into a cat spay and performing one portion of the spay surgery. This permits students to achieve competency with the spay procedure over the course of multiple surgeries, eventually allowing a student to seek spay certification (certification that the student can perform an entire cat spay without direct supervision, required for Shelter Surgical Opportunities III). This course can be taken any time, including the summer, after passing VSUR 601 Surgical Principles (offered as part of the core curriculum in the first quarter of second year), passing Shelter Surgical Opportunities I and achieving castration certification. Grading is pass/fail.
Taught by: Dr. Brittany Watson
Prerequisites: Prerequisites: VSUR 601 Surgical Principles, Shelter Surgical Opportunities I, Castration Certification
Activity: Lecture
1 Credit Hour
Notes: Ongoing (may be taken after the Spring semester of the 1st year, including summer)

VCSP 668 Shelter Surgical Opportunities III
This course is designed to be a continuation of Shelter Surgical Opportunities II and is an advanced elective offered to students who wish to achieve spay certification (if not previously spay certified) and pursue additional surgical opportunities. Four hours of didactic instruction will be offered online covering sterilization surgeries of adult and pediatric dogs as well as specialty surgeries such as enucleation, amputation, wound repair and mass removal. At least six hours of the 20 clinical hours will be spent at a partner shelter that provides opportunities to perform surgery on dogs. It is anticipated that students will perform 15-30 sterilization surgeries in this elective. Every effort will be made to allow students to meaningfully participate in non-sterilization surgeries such as mass removal, enucleation, amputation and wound repair after they are spay certified, although achievement of this goal may require an on-call option depending on caseload and individual student interest. This course can be taken any time, including the Summer, after passing Shelter Surgical Opportunities II and grading is pass/fail.
Taught by: Dr. Brittany Watson
Prerequisite: Prerequisites: Shelter Surgical Opportunities II
Activity: Lecture
1 Credit Hour
Notes: Ongoing (may be taken after the Spring semester of the 1st year, including summer)
VCSP 715 Small Animal Cardiology Service
Students will participate in outpatient and inpatient cardiovascular examinations and treatments. Cardiology Clinic days are currently Wednesday/Thursday/Friday, but are subject to change. Cardiology also provides consultation to other services and accepts transfer of Cardiology cases for primary care. Student responsibilities include obtaining a complete medical history and performing a thorough physical examination with emphasis on the cardiovascular system. After an orientation period on the first day, students are responsible for recording and interpreting electrocardiograms as well as interpreting thoracic radiographs and pertinent clinical laboratory data. Students assist with recording echocardiograms and are expected to become familiar with echo image recognition and common measurement techniques. Students are also expected to summarize pertinent findings in cases under their care at daily rounds and be able to discuss their significance. Completion of the medical case record for review by the attending cardiologist is required. The group captain will develop a schedule for the daily examination and morning treatments (seven days/week) of all hospitalized cases for which the cardiology service is responsible. A quiz is administered the final day of the rotation and determines 15% of the students grade for the rotation. Students should review notes for VMED 611 and the small animal cardiology computer assisted learning site prior to beginning the rotation.
Taught by: Dr. M. Oyama and Staff
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Note: satisfies requirement: SALA. Required: SA

VCSP 716 Dermatology & Allergy Service
This course exposes the student to case material presented to the Dermatology and Allergy Clinic at the small animal hospital. This course exposes the student to case material presented to the Dermatology and Allergy Clinic at the small animal hospital, and may include case material presented to the large animal hospital at New Bolton Center. Special emphasis is given in the discussion of each patient to the etio-pathogenesis, diagnosis, and treatment of disease. Attendance during receiving of large animal cases at NBC may be required on one Wednesday of each block, although volunteers will be sought first.
Taught by: Dr. C. Cain and Staff
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Required: SALA; SA

VCSP 717 Comprehensive Cancer Care Service
This rotation will expose students to a comprehensive approach to clinical oncology in small animals, including cancer diagnosis, staging, treatment, and palliative care. This service is primarily comprised of faculty and staff from Medical Oncology, Surgery, and Radiation Oncology. Other services, such as Interventional Radiology and Dentistry and Oral Surgery, will also be involved. Students are expected to participate in the care of outpatient and hospitalized cases (including pre and post-operative care for Surgical Oncology patients) and in patient care rounds in the morning and afternoon. Weekend duties include morning and afternoon treatments for hospitalized patients. Each student will present and discuss a journal article or relevant tumor topic once during the rotation.
Taught by: Dr. J. Mahoney and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: Maximum 5-6 students per rotation

VCSP 721 Primary Care Services
This rotation will offer students the opportunity to evaluate cases scheduled with the Primary Care Service (PCS). The Primary Care Service is designed to give students first-hand experience in dealing with common general practice clinical cases and with client communication. The main objective is for students to have the opportunity to be the vet while working under the guidance and supervision of a PCS veterinarian.
Taught by: Dr. G. Mengel
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Limitations: Minimum of 3 and maximum of 5 students per rotation. Required for: SA, SALA

VCSP 722 Small Animal Pediatrics/Genetics/Reproduction
The Small Animal Pediatrics-Genetics-Reproduction Clinic is run under the supervision of two board-certified faculty and two residents and emphasizes the unique care of pediatric patients, the approach and management of hereditary diseases, and reproductive problems. Pediatric and genetics clinics are held on Mondays and Tuesdays, and reproduction appointments are seen any day of the week. In addition to the clinical appointments, there is opportunity to see several unique genetic diseases in dogs and cats and handle the youngest of pediatric patients in the animal colonies, as well as get an appreciation for the specialty diagnostic laboratories. The clinical rotation deals with the initial yet crucial pediatric wellness visits including nutrition, socialization and preventive care and disease issues specific to this age group. The clinic highlights the evaluation of normal development and diagnosis of diseases of puppies and kittens (<1 year). Moreover, kittens and puppies with known or suspected inherited disorders are examined for which genetic counseling or special diagnostic studies are required. It provides experience with routine immunizations, treatment and prevention of parasitism, and nutritional and spay/neuter counseling.
Taught by: Dr. M. Casal and Staff
Activity: Clinical Rotation Dental & Vet school
2 Credit Hours
Notes: Required for: SA; Recommended for SALA

VCSP 770 Small Animal Internal Medicine Clinic
The elective rotation in small animal internal medicine will provide further contact and experience in problems of internal medicine (diseases of the endocrine, gastrointestinal, hematologic, pulmonary, and urogenital systems). Students in the elective rotation will be assigned more complex cases, and they will be expected to assume more responsibility for patient management and decision-making.
Taught by: Dr. M. Rondeau and Staff
Prerequisite: Prerequisites: VCSP 700 Small Animal Internal Medicine-Foundation
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: Based on Hospital Needs

VCSP 772 Small Animal Intensive Care Medicine
This is an elective clinical rotation equivalent to VCSP 712.
Taught by: Dr. D. Silverstein and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: Based on Hospital Needs; 3-4 students per rotation
VCSP 775 Small Animal Cardiology Service
This is an elective clinical rotation equivalent to VCSP 715 for Equine, Food Animal and Larger Animal Majors or as a second rotation in Cardiology for Small Animal or Small Animal/Large Animal Majors. Unless a student electing a second clinical rotation through the Heart Station makes special arrangements with the cardiology faculty on service, there is no distinction between this elective rotation and VCSP715. However, if a student has objectives for the elective rotation beyond the opportunity to see additional case material, an attempt will be made to accommodate proposals for a more individualized rotation to the extent that the regularly scheduled Heart Station activities are not compromised. A quiz is administered the final day of the rotation and determines 15% of the students grade for the rotation.
Taught by: Dr. M. Oyama and Staff
Prerequisite: Prerequisites: Core Medicine Courses
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Limitations: Based on Hospital Needs

VCSP 776 Dermatology & Allergy Service
This is an elective clinical rotation equivalent to VCSP 716.
Taught by: Dr. C. Cain and Staff
Prerequisite: Prerequisites: Core Medicine Courses
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Limitations: Based on Hospital Needs

VCSP 777 Comprehensive Cancer Care Service
Taught by: Dr. J. Mahoney and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours

VCSP 778 SA Neurology
A two week long clinical rotation which will include: 1) Participation in receiving outpatients, 2) Participation in diagnosis, treatment/care and discharge of hospitalized patients, 3) Participation in all aspects of in-hospital patient consultations, 4) Students should anticipate having independent library-research projects for subsequent small group discussion, 5) Students will be expected to participate in all aspects of weekend duty which is typically (but not necessarily) 8:00 am to Noon each Saturday and Sunday. Primary emphasis will be placed on the student learning to perform and interpret the results of the neurologic examination. Reviewing the description of the examination procedures in any standard veterinary neurology textbook will be extremely valuable. The course will provide opportunity for the student to become familiar with various diagnostic methods. The student will be expected to have reviewed and know the contents of classroom notes. Faculty method of evaluation: Students will be judged on their knowledge, commitment, contribution and accomplishment.
Taught by: Dr. E. Galban and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: 4 students maximum. Recommended: SA and SALA majors

VCSP 781 Primary Care Services
This is an elective clinical rotation equivalent to VCSP 721.
Taught by: Dr. G. Mengel
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Limitations: Minimum of 3 and maximum of 5 students per rotation

VCSP 782 Small Animal Pediatrics/Genetics/Reproduction Clinic
The Peds/Gen/Repro Clinic and their board certified faculty will emphasize aspects of pediatrics such as preventative health care programs, clinical evaluation of normal development, and diagnosis and management of diseases in puppies and kittens. The Clinic will also cover examination and management of animals with known or suspected inherited disorders in young and adult animals for which genetic counseling or special diagnostic studies are required. Reproduction issues such as infertility and semen evaluation will be addressed. Breeding timing with clinical hormonal assays and vaginal cytology, artificial insemination (vaginal, transcervical and surgical), pregnancy diagnosis with ultrasound and radiographs, and the occasional Caesarian section will also be performed. The practical information and hands-on experience provided by the Peds practice. This rotation can be paired with VCSP 876-SA Behavior. Alternatively, students may appreciate the extra time off the rest of the week (no evening, weekend and holiday coverage).
Taught by: Drs. Casal, Giger and Staff
Activity: Clinical Rotation Dental & Vet school
2 Credit Hours
Notes: Limitations: Minimum of 3 and maximum of 4 students per rotation. Required: SA

VCSP 790 Small Animal Medicine Holiday Rotation
The holiday internal medicine rotation will be a “learning on your feet” experience. Students will have similar responsibilities as during the core medicine rotations. Clinic appointments will be scheduled only for the first part of week one. Students will be assigned out patients and ES transfers and will evaluate these patients, formulate problem lists and appropriate diagnostic plans, participate in diagnostic procedures (e.g., bone marrow aspirate, tracheal wash), and perform treatments. Formal teaching rounds may not be held, but students will discuss patients on an individual basis with clinicians. The hours of the rotation shifts will be 6AM to 6PM and 12 noon to 12 midnight. Each student will be assigned to five shifts and will likely cover four 6AM to 6 PM shifts and one noon to midnight shift.
Taught by: Dr. M. Rondeau and Staff
Prerequisite: Prerequisites: Satisfactory completion of VCSP 700 - SA Medicine Foundation rotation
Activity: Clinical Rotation Dental & Vet school
3 Credit Hours
Notes: Limitations: preferred minimum 7 students, preferred maximum 10 students/rotation. (Maximum may vary between H1 and H2)

VCSP 798 Small Animal Neurology Holiday Rotation
Two one-week rotations will be offered during the Holiday period, each for 3 credits. Each rotation will consist of half of the Holiday period. This holiday rotation will have similar responsibilities as during the core neurology rotation. Clinic appointments will be scheduled for the first week only. Students will be assigned out patients, ES transfers, and will participate in neurology consultations for other services. Students will evaluate these patients, formulate problem lists and appropriate diagnostic plans, participate in diagnostic procedures (electrodiagnostic testing, CSF taps, imaging), and perform treatments that may include surgery. Formal teaching rounds may not be held, but students will discuss patients on an individual basis with clinicians.
Taught by: Dr. E. Galban and Staff
Prerequisite: Prerequisites: Satisfactory completion of VCSP 778 -Small Animal Neurology Service
Activity: Clinical Rotation Dental & Vet school
3 Credit Hours
Notes: Limitations: preferred minimum of 2 students; preferred maximum of 3 students per rotation. (Maximum may vary between H1 and H2)
VCSP 800 Small Animal Soft Tissue Surgery-Foundation
Students rotate through the Soft Tissue Surgery Service and are responsible for the diagnosis, pre-operative, operative and post-operative care of animals presented to this service under the supervision of Surgery staff. Night and weekend duties will be scheduled. Ward rounds (informal case discussions) are conducted regularly. A neuter service is scheduled each week. Every effort will be made to provide at least one opportunity for each student during the 2-week rotation to have primary responsibility as surgeon to spay or castrate a dog or a cat. CONFERENCE HOURS: 3 hrs/day of clinics (5) = 15 hours. 2-4 hrs/day of surgery (5) = 10-20 hours. 1 hr/weekend morning (4) = 4 hour. TOTAL 29-39 hours.
Taught by: Dr. M. Mison and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours

VCSP 811 Small Animal Orthopedic Surgery
Students rotate through the Orthopedic Surgery Service and are responsible for the diagnosis, pre-operative, operative and post-operative care of animals presented to this service under the supervision of Surgery staff. Night and weekend duties will be scheduled. Ward rounds (informal case discussions) are conducted regularly. CONFERENCE HOURS: 4-5 hrs/day of clinics (4) = 16-20 hours. 6-8 hr/day of surgery (6) = 42-48 hours. 2-3 hr/weekend day (4) = 8-12 hours. TOTAL 70-80 hours. Emergency call - varies depending on the number of students and number of emergencies.
Taught by: Dr. M. Mison and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Required: SA

VCSP 813 Small Animal Emergency Service
Students are assigned to a busy 24-hour, 7-day per week emergency service on a shift system. The students are responsible for diagnosis and management of animals presented to the service under the supervision of Emergency Service staff. Emergency Service rounds are held Monday through Thursday inclusive, and include topics related to emergency medicine and surgery centered around case discussion.
Taught by: Dr. K. Drobatz and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Note: Satisfies SA requirement. Required: SALA; SA

VCSP 814 Small Animal Radiology Service
This course primarily offers experience in small animal diagnostic radiology with some exposure to diagnostic ultrasound. Principles of radiographic interpretation teaching rounds are held daily. Students will assist in the positioning of animals and taking of routine and special procedure radiographic examinations and will observe and assist with ultrasonographic examinations of Ryan Hospital clinic cases. Students will also interact with the radiologist or radiology resident during their interpretation of the clinic cases. A 2-hour examination is given on the last day of the rotation. See Learn.vet for information on clinical competencies to be assessed in this rotation and to access additional study materials.
Taught by: Dr. J. Suran and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Required: SA. Satisfies SALA Imaging Requirement

VCSP 815 Small Animal Anesthesiology Service
Students are responsible for anesthetizing animals presented to the anesthesia service under the supervision of the Anesthesia staff. During the day, students will work closely with either the anesthesiologist on duty or a senior technician. Students will be scheduled with a technician for "on-call" night and weekend duty. On-call duties begin the first Tuesday (or second day) of the rotation and continue through to the last Sunday (or last day before the next rotation). The anesthesia service provides on-call services from 8 pm until 8 am during weekdays, and from Friday 8 pm until Monday 8 am over the weekend. In general, students schedule themselves for the on-call duties. Most rotations assign one student on-call per night during weekdays and split the weekend into 8 or 12-hour shifts. Anesthesia student rounds are conducted Mondays, Wednesdays, Thursdays, and Fridays. The first rounds on the first day of the rotation (usually a Monday) will occur at 9 am. Rounds on Wednesdays are at 8 am. Rounds on Thursdays and Fridays are at 7:30 am. Students are expected to attend grand rounds on Tuesdays. It is highly recommended that students prepare for their rotation by reviewing the course notes from the anesthesia core course and student surgery labs. The anesthesia handout will be given to students on the first day of the rotation. The rounds schedule and topics will be presented in more detail then.
Taught by: Dr. G. Gianotti and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Required: SA. Satisfies anesthesia/pain management requirement: SALA

VCSP 817 Small Animal Dentistry and Oral Surgery
Students participate in the client communication (including assessment of medical history), clinical examination, diagnostic testing (including patient restraint for intravenous catheter placement), treatment planning and treatment of animals presented with dental and oral diseases, including periodontal, endodontic, restorative and occlusal problems and oral and maxillofacial inflammation, infection, malformation, trauma and cancer. Mondays and Wednesdays are clinic appointment days, with rounds and a teaching laboratory or treatment procedures in the afternoons. Tuesdays, Thursdays and Fridays are treatment days. Occasionally, cases are hospitalized into Saturdays, and emergency cases may be referred from ES on Saturdays and Sundays. Responsibility for Saturday and Sunday patient care will be one to maximum two weekend days per student during the two-week rotation, and will most often consist of being on-call. Typically, Mondays and Wednesdays run from 8.30am-5.30pm (only rarely are there cases to SOAP on these mornings), and Tuesdays and Thursdays from 7am- 6.30pm. One student will be assigned to early-call (7am) on Fridays (other students will have an 8.30am start); Friday responsibilities typically extend to 4pm, except for one late-call student.
Taught by: Dr. A. Reiter and Staff
Prerequisites: Prerequisites: Core surgery lecture courses.
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Limitations: 2-4 students/rotation in VCSP 817,VCSP 877 combined. Required: SA

VCSP 870 Small Animal Soft Tissue Surgery
This is an elective clinical rotation equivalent to courses VCSP 800. Taught by: Dr. M. Mison and Staff
Prerequisites: Prerequisites: Core Surgery Courses
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: Based on Hospital Needs
VCSP 871 Small Animal Orthopedics
This is an elective rotation equivalent to SA Orthopedic Surgery VCSP 811.
Taught by: Dr. M. Mison and Staff
Prerequisite: Prerequisites: Core Surgery Courses
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: Based on Hospital Needs

VCSP 872 Small Animal Ophthalmology
The goals of this clinical rotation are to ensure that students achieve proficiency in performing a complete ophthalmic examination and become familiar with recognizing and treating common problems in small animal ophthalmology practice. All students are required to meet at 7:30 am the first day, and then at 8:00 am on subsequent days of the rotation. Attendance is not required on Friday of each week but the free time is expected to be dedicated to independent study in ophthalmology. An introduction to the service will be given on the first day of the rotation which will include a graded, short quiz. It is recommended that students prepare for the clinical rotation by reviewing their course notes in ophthalmology. Clinical rounds will take place several times weekly. Topic rounds and a cadaver (pig eye), surgery wet lab will be included if time permits. Outpatient service (each day of the rotation): Students are responsible for history taking, clinical examination, treatment planning, preparation of client discharge instructions and some client communication. Surgery patients (each day of the rotation): Students assigned a patient for surgery will be responsible for helping with the patients admission (7:30am the day of surgery). In preparation for surgery, the student must have reviewed the surgical technique, performed a complete physical examination and reviewed pertinent bloodwork. SOAPS, a surgical report and client communication following the procedure are also expected. There will be an opportunity to assist with some of the surgical procedures.
Taught by: Dr. Elaine Holt and Staff
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Limitation: maximum 3 students per rotation; minimum two students

VCSP 873 Small Animal Emergency Service
This is an elective clinical rotation equivalent to course VCSP 813.
Taught by: Dr. K. Drobatz and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: Based on Hospital Needs

VCSP 874 Small Animal Radiology Service
If this rotation is a first experience in small animal radiology (8721, e.g., equine, large animal or food animal majors), it is identical to course VCSP814 and a two-hour final examination is given. If this represents a repeat experience in the small animal radiology service, and you have satisfied the clinical competencies in your previous radiology rotation, you are exempt from these clinical competency assessments in the elective rotation.
Taught by: Dr. J. Suran and Staff
Prerequisite: Prerequisites: Core Radiology Courses
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: Based on Hospital Needs

VCSP 875 Small Animal Anesthesiology Service
Students are responsible for anesthetizing animals presented to the anesthesia service under the supervision of the Anesthesia staff. During the day, students will work closely with either the anesthesiologist on duty or a senior technician. Students will be scheduled with a technician for "on-call" night and weekend duty. On-call duties begin the first Tuesday (or second day) of the rotation and continue through to the last Sunday (or last day before the next rotation). The anesthesia service provides on-call services from 8 pm until 8 am during weekdays, and from Friday 8 pm until Monday 8 am over the weekend. In general, students schedule themselves for the on-call duties. Most rotations assign one student on-call per night during weekdays and split the weekend into 8 or 12-hour shifts. Anesthesia student rounds are conducted Mondays, Wednesdays, Thursdays, and Fridays. The first rounds on the first day of the rotation (usually a Monday) will occur at 9 am. Rounds on Wednesdays are at 8 am. Rounds on Thursdays and Fridays are at 7:30 am. Students are expected to attend grand rounds on Tuesdays. It is highly recommended that students prepare for their rotation by reviewing the course notes from the anesthesia core course and student surgery labs. The anesthesia handout will be given to students on the first day of the rotation.
Taught by: Dr. G. Gianotti and staff
Prerequisite: Prerequisites: Core Anesthesia Courses
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: Based on Hospital Needs

VCSP 876 Small Animal Behavior Clinic
This is an elective clinical rotation in small animal behavioral medicine.
Clinics are Wednesday and Thursday. Appointments are also seen on Fridays, and students are invited, but not required, to join us. Out-patient behavior clinic appointments are scheduled at approximately 3-4 hour intervals. Each student is responsible for reviewing behavior notes from VMED 616 (9005), prior to his/her first scheduled clinic. Students are required to attend all case rounds (twice per day), review records before rounds, and be prepared to present all cases. Students will assist with medical and behavioral history-taking, physical examination and diagnosis, and are responsible for a selecting handouts and writing discharge letter summarizing the recommendations made. Behavioral topics and volunteer training sessions are offered, when possible, between afternoon appointments and rounds.
Taught by: Dr. C. Siracusa and Staff
Prerequisite: Prerequisites: VMED 616 Clinical Animal Behavior
Activity: Clinical Rotation Dental & Vet school
3 Credit Hours
Notes: Limitations: Based on hospital needs. Note: Not offered every rotation

VCSP 877 Small Animal Dentistry and Oral Surgery
This is an elective clinical rotation equivalent to VCSP 817.
Taught by: Dr. A. Reiter and Staff
Prerequisite: Prerequisites: Core surgery lecture courses
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Limitations: 2-3 students/rotation in VCSP 817, VCSP 877 combined
VCSP 878 Exotic Companion Animal Medicine/Surgery
The purpose of this rotation is to introduce the student to exotic companion animal medicine and surgery. Students will gain knowledge of these animals by hands-on experience and participation in rounds. The student will be expected to obtain histories, develop a rule-out list, and a diagnostic plan on all appointments. The rotation focuses on patient management and assist with various diagnostic and treatment procedures for all scheduled appointments and exotic animal emergencies transferred from the emergency service. There will be a Monday through Sunday clinic schedule as appointments are seen 7 days a week. Additionally, students are expected to be “on-call” for overnight and daytime emergencies with a clinician. Students should expect the typical day to run from 8:00 AM - 7:00 PM.
Taught by: Dr. L. Latney and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Recommended - VCSP 635 Introduction to Companion Avian Medicine, VPTH 641 Laboratory Animal Medicine, VCSP 636 Introduction to Reptile and Amphibian Medicine, VCSP 657 Case Studies in Exotic Companion Animal Medicine/Surgery, VCSP 658 Pet Small Mammal Med/Surg

VCSP 879 Working Dog Medicine
To gain experience with all aspects of working dog medicine: Students will handle working dogs to perform general physical examinations as well as specialized assessments including but not limited to breeding soundness exams to assess dogs value in reproduction, dental examinations, and fitness evaluations. Students will conduct examinations and handling will be incorporated into behavioral training of dogs to being handled and touched on all areas of their body. Students will participate in routine preventive care and assess and treat injuries or illnesses that occur in the WDC working dogs. Students will gain experience in behavior and sports medicine through participation in impulse control, search work, fitness and conditioning exercises. Students may incorporate other aspects of working dog medicine into their rotations depending on their interests. These areas include sports nutrition, dentistry, and various aspects of research.
Taught by: Dr. C. Otto and Staff
Activity: Clinical Rotation Dental & Vet school
6 Credit Hours
Notes: Limitations: permission of instructor required. Note: Not offered every rotation. Location: Penn Vet Working Dog Center, 3401 Grays Ferry Ave, Philadelphia PA 19146

VCSP 880 Shelter Animal Medicine
This rotation gives a complex overview of the field of shelter medicine and community outreach by partnering with service-learning model with open and closed admission shelters, HQHV surgical clinics, schools, and outreach organizations like Pets for Life. A typical rotation focuses on authentic hands-on learning including four surgical days, mentored primary case management of medical cases and shelter population rounds, public clinical outreach, herd health management, training and behavioral assessment, and providing veterinary CE for shelter staff. Rounds and tour topics include cruelty investigation and humane law enforcement, behavior, ethics, exotics, and risk analysis. Dentistry, necropsies, consults, special procedures, and outreach to local middle schools can also be included as part of the rotation depending on the week.
Taught by: Dr. B. Watson and Staff
Activity: Clinical Rotation Dental & Vet school
5 Credit Hours
Notes: Limitations: 4 students

VCSP 890 Small Animal Surgery Holiday Rotation
This rotation will be similar to a regular surgery rotation with some modifications dictated by the holiday schedule. Students will assist surgery faculty and house officers in history taking, examinations, and the surgical management of small animal patients presented on an emergency basis to the Veterinary Hospital of the University of Pennsylvania. Students will be responsible for the daily care of surgical patients hospitalized at Ryan Hospital. They will also assist in surgery and perform treatments. All students will be expected to participate in night, weekend, and holiday duty on a rotating basis. Two students will be assigned to On Call duty each night and will perform treatments until midnight and assist with cases needing surgery in the night and evening hours. Assignments will be made the first day of the rotation. Rounds to acquaint students with the hospitalized patients will be held each morning and as time permits with the emergency clinician/house officer/nursing staff on duty, but formal teaching or rounds will occur as time permits during this rotation.
Taught by: Dr. L. Aronson and Staff
Prerequisite: Prerequisite: Satisfactory completion of the Small Animal Soft Tissue or Orthopedics rotation
Activity: Clinical Rotation Dental & Vet school
3 Credit Hours
Notes: Limitations: preferred minimum 6 students, preferred maximum 10 students / rotation. (Maximum may vary between H1 and H2)

VCSP 893 Small Animal Emergency Service Holiday Rotation
This rotation will be very similar to the Emergency Medicine clinical rotation elective course. Students will be involved in triage, patient stabilization, history and physical examination, diagnostic workup and treatment of patients seen in the emergency room. (We want students who have an interest in learning more about emergency medicine!) Specific time will not be set aside during the rotation for student rounds; however, teaching on a case-to-case basis will be stressed. Rotation shifts will be 8 AM to 8 PM and 8 PM to 8 AM. Each student will be assigned to 5 shifts during the rotation. There will be at least two students assigned to each shift.
Taught by: Dr. Drobatz and Staff
Prerequisite: Prerequisites: Satisfactory completion of the Small Animal Emergency Medicine rotation
Activity: Clinical Rotation Dental & Vet school
3 Credit Hours
Notes: Limitations: preferred minimum 6 students, preferred maximum 9 students / rotation. (Maximum may vary between H1 and H2)

VCSP 894 Small Animal Radiology Service
Taught by: Dr. J. Suran and Staff
Prerequisites: Prerequisite: VCSP 814,841 SA Radiology
Activity: Clinical Rotation Dental & Vet school
3 Credit Hours
Notes: Limitation: 0 - 2 students per 1 week rotation