INTRODUCTION TO YOUR COURSE IN VETERINARY GROSS ANATOMY
(Structural Adaptations to Function—VANB601)

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I. OBJECTIVES:

The major aim of the course is to help you learn the way the bodies of selected species important to veterinary medicine—dogs, cats, horses, ruminants (goat and cattle), and birds—are constructed. This knowledge will be basic to your future study of physiology, pathology, radiology, physical diagnosis, medicine and surgery in particular. We cannot dissect all the species you will encounter in your new profession, nor do we need to. Nature is organized and lawful, which permits us to successfully extrapolate the knowledge we gain from one species to the anatomy of other species. Our approach to the course—embodied in its official name, Structural Adaptations to Function—will assist you in this. Learning how particular structural features vary to support the behavior and functioning of the different animals you dissect should help to develop insights into what lies beneath the skin of those you do not.

You cannot possibly learn all of the anatomical information you will use during your career in this course, nor can you remember it all after only one exposure to anatomy. Thus it is also important to learn how to identify structures by reading descriptions in your texts, rather than by just matching your dissection with an idealized diagram in a book. You will need this ability if you are to be able to learn new surgical approaches from descriptions in journal articles when anatomy teachers are no longer available to help you.

2. CONDUCT OF THE COURSE:

Most of your time will be spent in the laboratory dissecting your own specimen, although we shall also provide demonstration dissections (prosections) in some cases. Laboratories are mandatory. Your absence would affect your dissection group’s progress. Attendance may be taken at random times during the semester. Inexcusable absences will lead to additional written assignments that will affect your grade in the course. You will be working in groups of four (occasionally 3) students. Your class orientation at the end of August will allow you time to meet your classmates and form your dissection groups.

The main lecture series will stress comparative and functional features of particular organ systems or regions of the body. Clinical relevance of what you are studying in Anatomy will be presented in another course, ‘Introduction to Clinical Veterinary Medicine (VMED600)’. We shall also take a trip to the Philadelphia Zoo in order to introduce you to exotic animal anatomy on the hoof, claw, etc.

3. BOOKS

The Textbook of Veterinary Anatomy by Dyce, Sack and Wensing (DSW), 4th ed. is required. You will also find this book helpful when studying for your board examinations during your fourth year, and after graduation as a practicing veterinarian. We expect that you will read all of the general chapters on the systems of the body as well as those on the animals you dissect. That expectation will be manifest in the examinations. If you have never taken an anatomy course, this is the book to study over the summer (really!). You should read at least the first chapter, but all of the general chapters would be extremely helpful. The Guide to the Dissection of the Dog by Evans and deLahunta (7th ed.) is also required. You can use an earlier edition, but you will have to adjust the page assignments and make any other important changes. This guide is clearly written, and the structures you should know are printed in bold type. Everyone should have access to Miller’s Anatomy of the Dog by Evans and de Lahunta, 4th ed (the 3rd ed by Evans is also acceptable). This book has excellent illustrations and descriptions. No small animal veterinarian should be without it in her/his library. You will find a copy of this text in your laboratory group locker boxes, and we encourage you to use it.
The large animal dissection will appear to be more confusing at times since we do not have the luxury of dissecting as many animals in this section of the course (therefore there will be more students on each cadaver). Again, the important structures are printed in bold type in your dissection guides. Each region you dissect is also clearly described in DSW; and many of the structures we wish you to dissect and learn are italicized there. It would be helpful to gain an overview of each area in DSW, and highlight/mark which structures are bolded in the dissection guide in your DSW, before beginning dissection of a new region.

During the large animal part of the course you will study the horse as well as the ruminant (goat) using group dissection. You will need *Rooney’s Guide to the Dissection of the Horse* by Orsini and Sack, 7th ed., for this part of the course. We will dissect the goat as the representative of the ruminant. The smaller size of the goat allows a more lucid dissection when compared with the cow. There are few clinically important differences between these two ruminant species. Those differences deemed significant to your careers will be demonstrated with prosected material. *Habel’s Guide to the Dissection of Domestic Ruminants*, by Orsini and Morrison, will be used for this section of the course.

*Rooney’s Guide to the Dissection of the Horse* and *Habel’s Guide to the Dissection of Domestic Ruminants* will NOT be available until October. More information concerning these 2 books will be made available to you in the future.

When dissecting the chicken, DSW will be supplemented with handouts. *Birds: Their Structure and Function* by A. S. King and J. McLelland is a thorough reference on avian anatomy that can be found in our library. It will be made available to you in the laboratory session on the bird.

Photographic atlases by Ashdown and Done are available for the dog, horse and ruminants. These will be of lifelong use to those with a particular interest in those animals.

Another useful book is deLahunta and Habel’s *Applied Veterinary Anatomy*. It has very clear discussions of important anatomical relationships, particularly those of clinical relevance, as well as clear directions for studying anatomy on live animals. It would be useful throughout your careers and may also be helpful in preparing for state and national board exams. Also, there are English translations of the German series by *Nickel, Schummer and Seiferle*. Volume 1, on the locomotor system, has many pages on the anatomy of locomotion. Volume 2, on the viscera, has many beautiful illustrations. The old American standby, *Sisson and Grossman’s Anatomy of the Domestic Animals*, is another useful book. Unfortunately, all of these books are now out of print. Most of them, however, will be available in the locker box assigned to your dissection group. Others are in our library.

Suggested books to read for enjoyment this summer are: *The Knife Man* by Wendy Moore, *Stiff*, by Mary Roach and *Your Inner Fish* by Neil Shubin.

4. **SUPPLIES FOR THE COURSE**

**Instruments:** A great number and variety of instruments for dissection are available, but the student must procure the following, which can be found in certain commercial kits. Dolbey’s Bookstore will have available an approved and inexpensive dissection kit.

1. A pair of rat-toothed tissue forceps, approximately 5" long, with handles transversely ridged to prevent slipping.

2. A metal scalpel handle (#4) with a large supply of blades (20-25 will be enough). The cutting edge of the blade should be slightly convex—the point should be well tapered (#’s 21, 22). Scalpels must be kept sharp at all times; therefore, change blades frequently. **CAUTION:** Be extremely careful when changing blades, for obvious reasons.

3. A blunt metal probe (seeker), consisting of a rigid 5" steel shaft about 1/4" in diameter with blunt bent tip. **Pointed needle-like probes and abruptly-hooked probes should not be used.**

**Clothing:** A white laboratory coat or coveralls (during the large animal section) MUST be worn during laboratory sessions. Lab coats and lab coat laundry service will be provided to you for the Anatomy course. You will need to provide disposable examination gloves and waterproof, over-the-shoe boots – Tingley Style 1400 Workboot. Please do not leave any of these items (except your boots) in the laboratory. **No** personal items may be left in your group locker boxes.