



## COMPUTER-BASED LEARNING MATERIALS AND ELECTRONIC COMMUNICATION IN VM 8054, VETERINARY HISTOLOGY

*Incoming students should be aware that there are  
NO PAPER HANDOUTS of any kind  
used in VM 8054, Veterinary Histology!*

The VMRCVM is committed to making the most effective teaching materials available to students at the lowest possible cost. **VM8054, a required first-year course, is centered around teaching material located on the World Wide Web, and on a CD-ROM which duplicates the course Web site. There is also a class site on Blackboard, the University's centralized instructional resource.** You will need a computer to use these materials.

Computer-based learning materials have major advantages. First among these is that they provide you with total access to course information, so that you can work at *your* own pace, in *your* own home, and at the time *you* choose, without the constraints of a daily schedule. All of the lecture materials and lab handouts are accessible in exactly the form you see them in the classroom or lab.

**As part of your Orientation material, your handout packet will contain a CD-ROM disk for VM8054. The entire course is contained on this disk, including all administrative materials, course policies, grading standards, learning objectives, etc.** It includes all the lab exercises, and full-color versions of the lectures, complete with notes and images, for all topics. **Be certain to read all the Administrivia stuff: it's important and it will tell you everything you need to know about course policies, grading standards, assignments, and so forth.**

### *VM8054 Lab Manual*

The lab manual on a CD is the core and center of the course. It's a "web site on a disk," incorporating hundreds of color images taken directly from the microscope slides in the set you'll be issued. Each image is accompanied by descriptive text and in addition to microscope images there are many color line drawings. **Virtually any field of view shown in the CD material can be found on your own slide set** because the CD is "keyed" to the slides used in the course. You can view examples from actual specimens and demonstrations at any time, at home, in the Library, or at any other convenient location. The lab manual is also accessible on line at the following URL:



<http://education.vetmed.vt.edu/Curriculum/VM8054/VM8054HP.HTM>

### ***VM8054 Lectures, Lecture Notes, and Recorded Lectures on the “BLACKBOARD” SERVER***

Virginia Tech has a central server running **Blackboard**, a dedicated teaching-support system. Blackboard is an alternative way to provide 24-hour access to the course materials. **Except for on-line quizzes, everything that's on the CD will also be accessible through Blackboard, and the latest version of anything will always be located there. I also have a method for recording lecture presentations, so that you can see the presentation and hear it as it was given to your class, any time you wish, for review purposes.** These “narrated Powerpoints” are in the form of a Windows movie. They're available *only* on Blackboard via a high-speed Internet connection. They're far too large to use with dial-up service.

Lecture material will be posted on Blackboard in advance of the date of the lecture: you can download the Powerpoints to your own computer and follow along in the classroom, or if you prefer, connect to the Blackboard server in class via the in-house wireless service.

### ***NETCAM in Lab Sessions***

Lab exercises in this course are scheduled for two hours per week. In the first hour I do “show-and-tell” to give you an orientation to the slides, and project the images. This is done on a dedicated computer attached to the microscope, and equipped with NETCAM, a program that allows you to log into the microscope I'm driving and to see, on the screen of your own laptop, the images I'm projecting, in real time. You can capture these images as well.

### ***On-Line Quizzes***

Two major practical exams are given "live" in class. There will also be a series of six quizzes given throughout the course, administered on-line. These will be posted to the course web site. You'll be able to get at them from any computer with an Internet connection, and you can take them at any time during the week they're up, even if it's at 4:00 AM, and you're sitting in your apartment in your bathrobe. A sample quiz can be seen at the following URL:

<http://education.vetmed.vt.edu/Curriculum/VM8054/QUIZZES/QUIZ1/index.htm>

### ***Virtual Microscopy:***

At times I'll show you images from the "Virtual Microscope" (VM), a service of the Olympus Corporation and a resource you'll find helpful. Virtual Microscopy "puts the microscope inside the computer" by accessing digitized images at a central server. You can manipulate these images just as you would a glass microscope slide (*e.g.*, change power, look at different areas, etc.).

VM is not (yet) a complete replacement for "brass and glass," but it's a very good addition and extremely helpful. It provides access to a vast collection of slides, many of which illustrate important points with special stain routines or are examples of things that our collection lacks. With a high-speed line, you can use VM any time and place you want. To learn more about VM, visit:

[www.baculabs.com](http://www.baculabs.com)

and download their free **WebSlide** browser and/or the Active X control that permits you to use the VM on your own laptop. The service is free.

### ***Printed Course Material:***

#### **I don't provide this.**

I recognize that there are some who want to have a "hard copy" of the material: so if you really feel you need a paper copy, make your own by using the "File/Print" command in your browser. Note carefully that a complete printout of the lab manual (especially if you insist on having it in color) will use *at least* three sets of printer cartridges and a ream of paper. If you want the 600-700 color pages from the lecture files, you can at least double those figures. For obvious reasons, the College is not in a position to do this for you or to provide printer access.

### ***College and University Facilities for Computer Access:***

The VMRCVM Library has a good-sized computer lab dedicated to student use. It's open whenever the Library is open. If you're a night person or if you find yourself up at 3:00 AM and decide to take a quiz, you can do it from the Math Emporium, Tech's 24-hour-a-day computer center on University City Boulevard. The Math Emporium is available to all students at no charge, and has 500 computers with full Internet access.

### ***E-Mail:***

**I make extensive and exclusive use of electronic mail for class communication.** I have a dedicated e-mail address that I use to send information of general interest to the class as

a whole and to individuals who may have questions. E-mail is used to distribute exam grades, answer keys, supplemental notes, and similar information; and you can use it to contact me for any individual information you want me to address. The address dedicated to VM8054 is **doctorc@vt.edu**. It's active now, please feel free to use it.

You will receive an individual e-mail ID at your Orientation session, and **you should make sure it's working as soon as you get it**. If you currently have e-mail service, I welcome any questions you may want to send me before the semester begins. I make up a nickname file for the class as soon as all ID's have been assigned, and will send out information *en masse* regularly. I will be happy to include on the list any non-University addresses you may care to use, but I'll always use the VT-issued ID as well.

### ***Software You Will Need:***

To access the information on the CD you *must* be able to use the following:

- **Microsoft WORD**
- **A WWW-capable browser such as Internet Explorer or Firefox**
- **Adobe Acrobat Reader**

You will need a copy of **Windows Movie Player** or some other software capable of playing .AVI, .WMV, .MOV, and/or Flash movies. Most operating systems have these built in, but Flash movies may require a separate free program.

For VM, you'll need **WebSlide** and the Active-X plug-in for Windows that Bacus Labs makes available as free downloads.

It will be **greatly** to your advantage to obtain a copy of **Microsoft Office**. The University makes this available to students at a substantially reduced price compared to the open market, so if you don't have it already you should buy it here. This suite of programs includes the most popular word-processing program (WORD) as well as PowerPoint and the Excel spreadsheet program. You will use it every day of your professional life, not only in my classes but in many others; and in practice after you leave our Hallowed Halls.

**Up-to-date versions of WWW browsers with Java capability** can be obtained through Tech for free. The University provides all incoming students with many of the programs used here. A great deal of other software is available at deeply discounted prices through the Computing Center. See the following site for details on what's available for student purchase:

[http://computing.vt.edu/software\\_and\\_hardware/student\\_software/index.html](http://computing.vt.edu/software_and_hardware/student_software/index.html)

More software can be found at:

[http://computing.vt.edu/software\\_and\\_hardware/index.html](http://computing.vt.edu/software_and_hardware/index.html)

### *Hardware:*

## **IF YOU DON'T ALREADY OWN A COMPUTER, NOW IS THE TIME TO GET ONE, OR TO UPGRADE THE ONE YOU HAVE.**

The software is geared towards PC's but MOST of it will run on Macs, especially the later ones. For technical reasons having to do with the way the Mac allocates memory and handles file names, some of the images may not display properly on a Mac. However, in recent years the two operating systems have become more intercompatible. The decision is yours, but if you are buying a computer, my advice is...go with Windows. Over 95% of the computers in the USA run Windows, and 99+% of those outside the USA do.

Incoming first year students in the VMRCVM are NOT required by the College to buy a computer, but it is very much in your best interest to do so. If your only access to computers is through the Library, you'll find life very inconvenient. To minimize the stress and to maximize the 24-hour-a-day access computers give you to your classes and coursework, **buy a computer now and bring it to school with you.** The University also has purchase plans with the larger manufacturers, and can usually provide a substantial savings over buying the same machine elsewhere.

**While desktop computers are somewhat cheaper than notebooks, a notebook computer is far more convenient; I can't stress this point too much.** The labs are intended to be done with the microscope next to the computer and a good notebook computer is the only way to do that. Very good ones can be had for well under \$1000.

**You will be best served by a high-grade notebook computer** with an active-matrix screen and a DVD drive, equipped with Ethernet and wireless connectivity, a fast processor, and as much memory and hard drive space as you can afford. A modem is useful if you live off campus in an area without broadband service.

If you have to skimp, put your money in the memory and processor speed, opt for a CD-ROM drive instead of a DVD, and settle for a smaller hard drive, but don't go below 60 Gb drive space; it's amazing how fast that seemingly bottomless storage capacity fills up.

Don't get any less than 256 Mb of RAM, 512 Mb is better, and 1.0 Gb is better still.

The College has a wireless interface. You must have wireless capability, as well as the ability to make use of the hard-wired Ethernet ports that are scattered all over the building. If you're not fully "computer-literate" or feel uncomfortable with computers, please feel free to contact me for further discussion. You can send me e-mail, or if you like, come to see me early in the semester. I'll walk you through what you need to use the course material and be happy to give you suggestions on what to buy.

Congratulations on your admission to the College! I'm looking forward to meeting your class, and to helping you use these innovative methods to learn Histology.

Sincerely,

A handwritten signature in blue ink that reads "Tom Caceci". The signature is written in a cursive style with a large, prominent 'T' and 'C'.

Dr. Tom Caceci