

## Learning Centre, Student Affairs

### Biology 067 Learning Skills

To learn biology, you must memorize a lot of information. Memorizing alone—without *understanding* the information and *using* it—seldom results in either high marks or retention of the information.

Here are some approaches that will help you *learn* the content of Biology 067:

#### Think like a biologist

*Identify context:* relate details to the big picture

*Represent information:* diagrams, charts, graphs, lab work, notes

*Infer:* draw conclusions from information or evidence

*Discover relationships:* how does structure affect function?

*Order:* rank, sequence, arrange methodically

*Hypothesize:* make predictions

*Verify:* confirm prediction or accuracy

*Change perspective:* alter view of significance of information

*Work overtime:* expect to spend 2-3 hours per day studying

#### Learn the core concepts

*Anatomy:* the science of body structures and their inter-relationships

*Physiology:* the science of body functions; the study of biochemical, physical, and mechanical properties

*Levels of organization:* molecules, cells, tissues, organs, and systems

*Systems of the human body:* structure, location, and function

*Homeostasis:* the process of maintaining a stable internal environment so that biological processes can function effectively and efficiently

*Genetics:* the study of inheritance of qualities or characteristics

#### Use your text effectively

*Learn to navigate your text:* Spend some time getting to know how the text is structured for learning and use labeled sticky notes to mark sections.

*First reading:* Skim the chapter or section before class to get the big picture.

*Second reading:* In-depth learning

- slow down and *concentrate*
- pay special attention to the aspects covered in *class*
- use *highlighter* sparingly—no more than 3 words in a row
- make *margin notes* that summarize main points and concepts (if you don't own the book, make page notes and reference page #)
- *explain* in your own words what you have read
- pay attention to new *terms and concepts*
- know which *diagrams* to study; pay attention to the *explanations*

*Third reading:* Scan for important diagrams, terms, definitions, and concepts to make study aids, such as a list of terms, a chart, or flash cards.

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### **Use all your senses**

*Eyes* to look at visuals and read

*Ears* to listen to your instructor and to yourself read and explain aloud

*Hands* to write, draw, highlight, and trace

### **Practice remembering instead of re-looking**

Think about the difference between (a) *looking at* something in front of you and understanding it *and* (b) being able to explain, summarize, or draw it *from memory*. Which is expected on a test? Practice that way!

*Without looking* at your text, or notes, say or write a summary of important points—do this at regular intervals.

Photocopy *diagrams* and white out labels; make several copies and *practice* labeling. Note your mistakes and put your energy into learning what you don't already know.

When using *flashcards*, if you don't know the response, *don't* look right away—work on trying to remember. Put the cards that you don't know in a separate pile and spend time working on those until you know them. Put a tick mark on those you get right and an x on those you don't know.

### **Consolidate your learning**

*Rewrite* class notes to review, fill in gaps, and consolidate learning.

*Restructure* or *elaborate* your notes rather than simply copying them. Learn the *two-column* note system. Sign up for a learning skills session or go online:

Cornell Notes [http://lsc.sas.cornell.edu/LSC\\_Resources/cornellsystem.pdf](http://lsc.sas.cornell.edu/LSC_Resources/cornellsystem.pdf)

Make *charts*: For example, when studying a body system, make a chart with these headings: part, location, structure, function, other (pathology, target drug).

Make *study notes* that are simpler than your revised class notes. Staple them together and keep on you for quick *review* sessions.

### **Do drills and regular review**

*Flash cards*, *study notes* (cover up one side of two-column notes)

*Label* diagrams until you can do so without error

*Verbalize* by reciting definitions, concepts, etc.

### **Practice answering questions**

Learn about different *types* of exam questions (see Learning Centre handout or go to second link below)

Develop your *own* questions, based on your class notes

Answer the questions at the end of each *chapter*

Write *practice tests* based on class notes (link below)

### **Identify and use resources**

Cowichan Campus Learning Centre: Attend a workshop, make an appointment, select useful handouts, request a Volunteer Tutor. For online resources: <http://cc.viu.ca/ss/academic support.htm>

Biology 067 practice tests <http://cc.viu.ca/ss/academic support.htm>

McMaster University learning skills videos: [http://maclife.mcmaster.ca/academic skills/online\\_resources.cfm](http://maclife.mcmaster.ca/academic skills/online_resources.cfm)

ref: Donald, G. J. (2001). *Learning to Think: Disciplinary Perspectives*. San Francisco: Jossey-Bass