Learning from Lectures

A Step towards Academic Success

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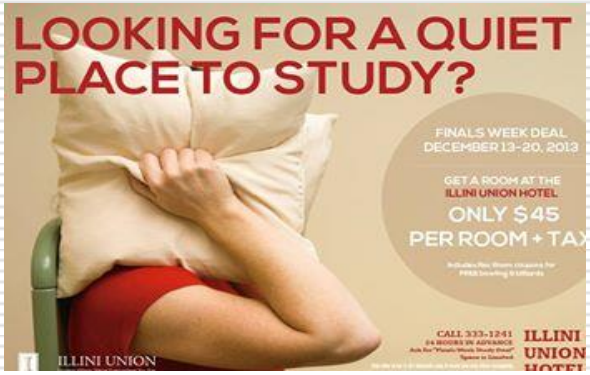
Objectives

- To help students to get the most out of lectures.
- To encourage students to be more reflective and interactive learners.
- To demonstrate to students how to study effectively

Learn how to study effectively

- Choose a quiet place to study (library)



- Set a specific time to study (study timeline)

Cont. Learn how to study effectively

- Make sure you have all the study materials you need

- Keep a positive outlook about studying
- Do not postpone

Create a study plan

- Create a time chart of your current activities. It is helpful for determining a certain day/ time that you can devote to studying.

- Develop a schedule

Cont. Create a study plan

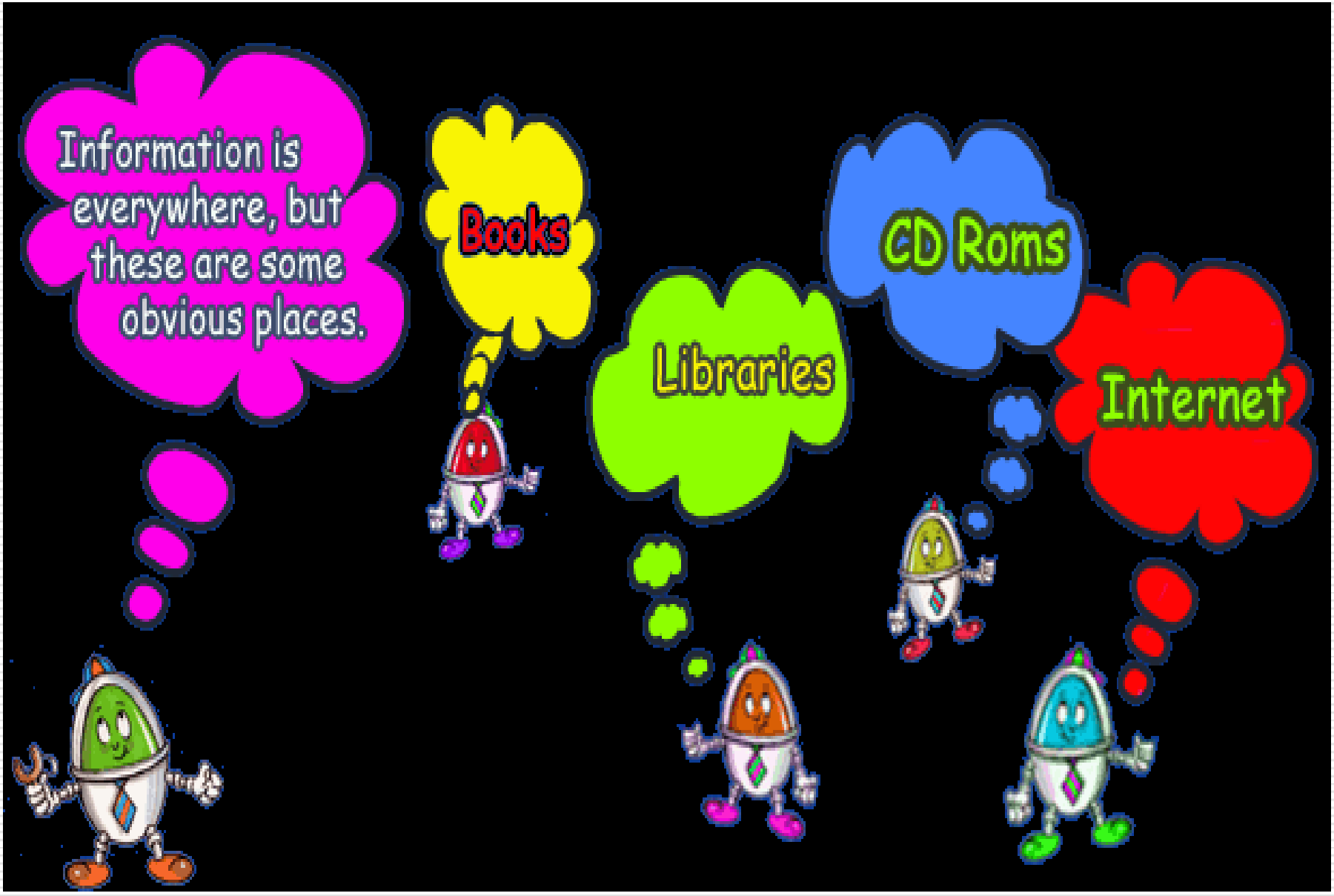
- Determine your study goals
- Stick to your schedule

Study skills…

- Create a weekly study schedule
- Apply the 45/15 rule
- Read actively

Make the Most of your time

- Self-Testing: take frequent practice tests
- Study Groups
- Teach someone what you're learning
- Getting extra help (tutorials, office hours)



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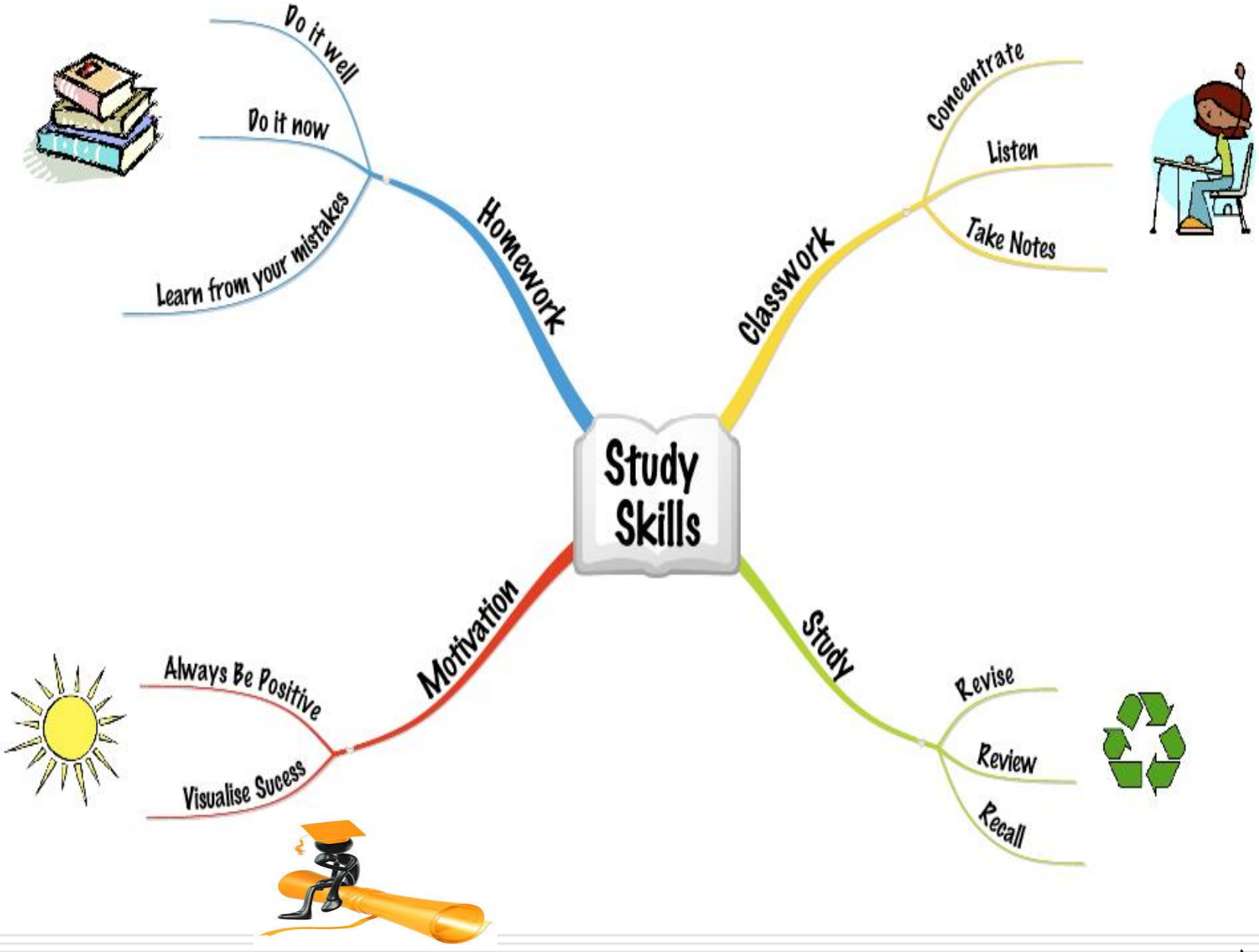


http://straphaelas.ie/index.php/study-skills/

Reasons for not getting the most out of lectures

History repeats itself. Which may explain why it's so boring.

What the experts say:

- You are unable to cope with the volume of information because it is **all** new to you.

- You do not recognise or understand some of the new terminology

http://www.google.com.sa/imgres?imgurl=&imgrefurl=http%3A%2F%2Fwcbi.com%2Ffeatures%2F&h=0&w=0&sz=1&tbnid=pCy8uRekpjGoAM&tbnh=160&tbnw=240&zoom=1&docid=-iCnU5OQotBtMM&hl=en&ei=PS_oUvHSKNTs0gWS54GgBA&ved=0CAUQsCUoAQ

Cont. What the experts say:

- Lack of any understanding of a new subject/topic reduces your ability to make decisions about selecting relevant and important information for your notes.

- You are distracted easily by other students who are talking/mobiles ringing.

http://alternativethinking.blog.co.uk/2011/02/20/is-society-addicted-to-mobile-phones-10639670/

Most of these problems can be solved by:

- Pre-lecture preparation
- Improved note-taking skills
- Improved listening skills

If you skip class:

- You will miss the instructor's explanatory comments and supporting examples.
- It will be difficult to determine the most important information for the exam since you don't know what the instructor highlighted in the lecture.

If you skip class:

- You may end up relying on a classmate's notes, which could be incomplete or difficult for you to understand (filtered by someone else's background knowledge, note taking skills, and attention span).

If you skip class:

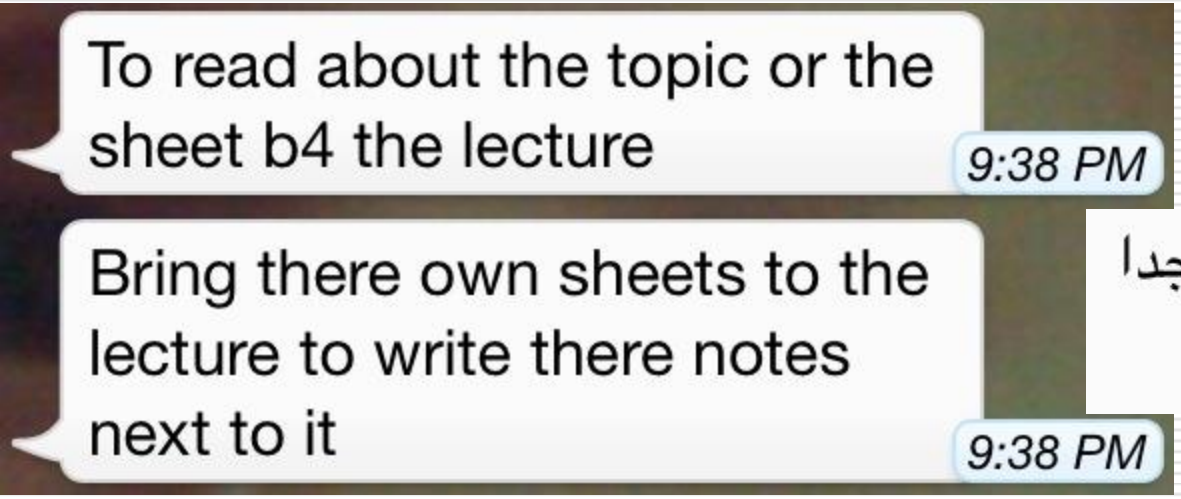
- You may find studying takes longer as going to class brings deeper understanding and greater recall.

- **Even if you are tired or busy, find a way to make it to class!**

Tips from students at KAU

بالنسبة للنصائح: ١ تنظيم الوقت ،
2. المذاكرة اول باول ،
3.عدم السحب ع المحاضرات 😋

1- they have to take the best of every lecture , front raws are recommended , participation and asking questions are very imp.



* حضور جميع المحاضرات لانه جدا بسهل المذاكره .

How do you get the most out of lectures?

Getting the most out of lectures

- Before lectures
- During Lectures
- After lectures

Pre-Lecture Preparation

- Look up the course syllabus/study guide.
- Know the lecture topic/ objectives in advance.
- Go through the outline of the lecture (how much you already know?).

Cont. Pre-Lecture Preparation

- Try to read about the topic if the subject is new to you, or complete assigned readings.
- Be there on time (don't miss the beginning of a lecture) Why?
- Sit in the front (@@ contact with lecturer).

Making effective use of pre-lecture notes and downloads

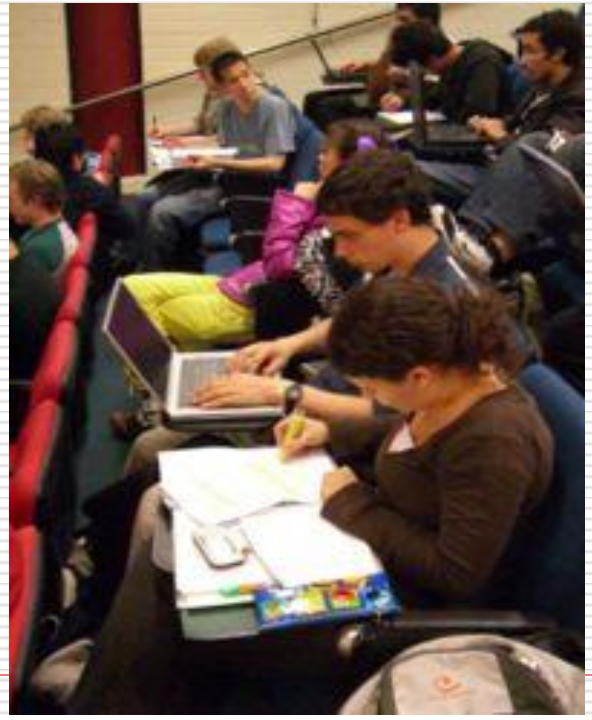
- You can go through them and highlight with a coloured marker important information.
- You can also make your own comments or questions in the side-line.
- You can highlight key terminology (and put a definition alongside if necessary).

Spending time preparing for lectures is time well spent:

- It will ensure that you learn more when you go to the lecture.
- And that your note-taking is more effective and meaningful.

During the Lecture

- Effective listening
- Deciding what to write down (note taking skills).



Effective Listening

- Listen actively. To become an active listener, you create an internal conversation between you and the instructor as she/he is lecturing.

- This includes actively anticipating and questioning what the lecturer says.

Note-taking skills

- Your notes are the payoff for the time you invest in class and they provide a critical tool when preparing for exams.
- Develop and use a standard method of note-taking including punctuation, abbreviations, margins, etc.
- Do not try to take down everything that the lecturer says. Spend more time listening and attempt to take down the main points.

DO . . .

- Be sure to date and number pages
- Make sure that you can read what you record
- Leave plenty of space between topics so that you have room to edit your notes

DO . . .

- Show the relationships between items by drawing arrows, creating concept maps, or organizing content into tables.

- Edit your notes as soon as possible after class. Find and fill in any missing points, underline and highlight titles and important points, and summarize the main points of the lecture.

DON'T . . .

- Don't depend on someone else's notes. Your notes are unique to you.
- Don't habitually tape lectures. Taping more than doubles your lecture time and can become a barrier to developing note taking skills.

DON'T . . .

- Don't cause or tolerate distractions. Move or diplomatically ask those making noise to be quiet.
- Don't assume for any reason that going to class is unnecessary.

The Benefits of taking notes

- Lecture notes provide a written summary of a spoken presentation that can be used for later review.

- Lecture notes help you remember the course material.

Cont. The Benefits of taking notes

- Note-taking encourages you to write the material in your own words which will help you to comprehend and retain information.

After Lectures

What to do with the information after lectures?

Organize and review your notes as soon as possible after the lecture

- While the lecture is still fresh in your mind, fill in from memory examples and facts which you did not have time to write down during the lecture.

- Immediate review results in better retention than review after a longer period of time.

Cont. Organize and review your notes as soon as possible after the lecture

- Unless a student reviews within 24 hours after the lecture, his retention will drop; and he will be relearning rather than reviewing.

Summary…

- **Before the lecture:**

  Prepare for lectures

- **During the lecture:**

Listen actively and write main points

- **After the lecture:**

Read your notes and fill in any gaps

Steps on how to read a textbook

Step #1: Survey

- Before you dive in and read the material in depth, take a minute to read the title of the chapter, and any headings or subheadings

- See if there is an outline or reference page at the beginning of the chapter. This breaks the chapter down into sections where you can see what each has to offer.

Cont. Steps on how to read a textbook

- Look for words in **bold text**, which reference important terms you should be aware of
- You will also find it helpful to read the chapter's **introductory paragraph**, which provides insight as to what you will be reading about
- Read the **summary** at the end of the chapter, which outlines the most important topics covered in the chapter.

Life

CHAPTER 1

It is usually easy to decide whether or not something is alive. This is because living things share many common attributes, such as the capacity to extract energy from nutrients to drive their various functions, the power to actively respond to changes in their environment, and the ability to grow, to differentiate, and—perhaps most telling of all—to reproduce. Of course, a given organism may not have all of these traits. For example, mules, which are obviously alive, are related to the biology of the corresponding organisms or even communities of such organisms. This introductory chapter therefore begins with a synopsis of the biological realm. This is followed by an outline of biochemistry, a review of genetics, a discussion of the origin of life, and finally, an introduction to the biochemical literature.

1 PROKARYOTES

It has long been recognized that life is based on morphological units known as **cells.** The formulation of this concept is generally attributed to an 1838 paper by Matthias Schleiden and Theodor Schwann, but its origins may be traced to the seventeenth century observations of early microscopists such as Robert Hooke. There are two major classifications of cells: the **eukaryotes** (Greek: *eu,* good or true + *karyon,* kernel or nut), which have a membrane-enclosed **nucleus** encapsulating their **DNA (deoxyribonucleic acid);** and the **prokaryotes** (Greek: *pro,* before), which lack this organelle. Prokaryotes, which comprise the various types of bacteria, have relatively simple structures and are invariably unicellular (although they may form filaments or colonies of independent cells). They are estimated to represent about half of Earth's biomass. Eukaryotes, which may be multicellular as well as unicellular, are vastly more complex than prokaryotes. (**Viruses,** which are much simpler entities than cells, are not classified as living because they lack the metabolic apparatus to reproduce outside their host cells. They are essentially large molecular aggregates.) This section is a discussion of prokaryotes. Eukaryotes are considered in the following section.

CHAPTER SUMMARY

1 Prokaryotes Prokaryotes are single-celled organisms that lack a membrane-enclosed nucleus. Most prokaryotes have similar anatomies: a rigid cell wall surrounding a cell membrane that encloses the cytoplasm. The cell's single chromosome is condensed to form a nucleoid. *Escherichia coli*, the biochemically most well-characterized organism, is a typical prokaryote. Prokaryotes have quite varied nutritional requirements. The chemolithotrophs metabolize inorganic substances. Photolithotrophs, such as cyanobacteria, carry out photosynthesis. Heterotrophs, which live by oxidizing organic substances, are classified as aerobes if they use oxygen in this process and as anaerobes if some other oxidizing agent serves as their terminal electron acceptor. Traditional prokaryotic classification schemes are rather arbitrary because of poor correlation between bacterial form and metabolism. Sequence comparisons of nucleic acids and proteins, however, have established that all life-forms can be classified into three domains of evolutionary descent: the Archaea (archaebacteria), the Bacteria (eubacteria), and the Eukarya (eukaryotes).

2 Eukaryotes Eukaryotic cells, which are far more complex than those of prokaryotes, are characterized by having numerous membrane-enclosed organelles. The most conspicuous of these is the nucleus, which contains the cell's chromosomes, and the nucleolus, where ribosomes are assembled. The endoplasmic reticulum is the site of synthesis of lipids and of proteins that are destined for secretion. Further processing of these products occurs in the Golgi apparatus. The mitochondria, wherein oxidative metabolism occurs, are thought to have evolved from a symbiotic relationship between an aerobic bacterium and a primitive eukaryote. The chloroplast, the site of photosynthesis in plants, similarly evolved from a cyanobacterium. Other eukaryotic organelles include the lysosome, which functions as an intracellular digestive chamber, and the peroxisome, which contains a variety of oxidative enzymes including some that generate H_2O_2. The eukaryotic cytoplasm is pervaded by a cytoskeleton whose components include microtubules, which consist of tubulin; microfilaments, which are composed of actin; and intermediate filaments, which are made of different proteins in different types of cells. Eukaryotes have enormous morphological diversity on the cellular as well as on the organismal level. They have been classified into four kingdoms: Protista, Plantae, Fungi, and Animalia. The pattern of embryonic development in multicellular organisms partially mirrors their evolutionary history.

3 Biochemistry: A Prologue Organisms have a hierarchical structure that extends down to the submolecular level. They contain but three basic types of macromolecules: proteins, nucleic acids, and polysaccharides, as well as lipids, each of which are constructed from only a few different species of monomeric units. Macromolecules and supramolecular assemblies form their native biological structures through a process of self-assembly. The assembly mechanisms of higher biological structures are largely unknown. Metabolic processes are organized into a series of tightly regulated pathways. These are classified as catabolic or anabolic depending on whether they participate in degradative or biosynthetic processes. The common energy "currency" in all these processes is ATP, whose synthesis is the product of many catabolic pathways and whose hydrolysis drives most anabolic pathways. DNA, the cell's hereditary molecule, encodes genetic information in its sequence of bases. The complementary base sequences of its two strands permit them to act as templates for their own replication and for the synthesis of complementary strands of RNA. Ribosomes synthesize proteins by linking amino acids together in the order specified by the base sequences of RNAs.

4 Genetics: A Review Eukaryotic cells contain a characteristic number of homologous pairs of chromosomes. In mito-

Cont. Steps on how to read a textbook

Step #2: Question

- Ask yourself what the most important topics or concepts in the chapter are.
- You may find that turning each heading into a question is helpful.
- Develop questions like *Who?*, *What?*, *When?*, *Where?*, *Why?*, and *How?*, which you can answer while you read.

Cont. Steps on how to read a textbook

Step #3: Read

- It is time to start reading
- Use what you discovered in step one to recognize any important terms or concepts.
- It is also a good idea to underline or highlight any information you think is important and that you would like to revisit later.

Advice

- You'll get the most out of lectures by reading the chapter in advance.
- After class, focus your reading on concepts your professor emphasized in class.

Cont. Steps on how to read a textbook

Step #4: Recite (relate)

- The next step is to relate the information you learned.
- Try to answer each question without referring to the textbook in order to test whether you really absorbed the material
- Once you feel you have a complete grasp of the material, repeat all the major topics and terms to yourself.

Cont. Steps on how to read a textbook

- Putting the concepts you read into your own words helps with memorization.

- Reciting the text is all about reviewing what you just read, so if you don't feel confident that you can answer the questions you developed in step two, you should reread the text.

Cont. Steps on how to read a textbook

Step #5: Record

- Now it is time to take some notes
- Use a notebook and label the top of the page with the chapter number and title you just read
- Write down any information you found important. Also, write down all the key terms in the chapter along with their meaning.

Cont. Steps on how to read a textbook

Step #6: Review

- Now that you've read the material and taken notes, review everything you've learned
- Browse your notes to recall the important topics that were covered in the chapter
- Try to **predict questions** that your professor may put on an exam and practice how you would answer them.

How to study from your textbook

- To study for an exam, you do not necessarily need to go through all six steps above.
- But you should take the time to review main concepts in each chapter.

How to study from your textbook

- You will reread the introductory paragraph and summary at the end of the chapter.
- Revisit headings, subheadings, and bolded terms. Also, reviewing underlined or highlighted words that you marked while you were reading.

How to study for final exam

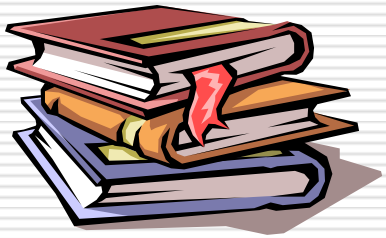
- Start two weeks prior to the finals (actually from the first day of class)
- Organise your materials, identify trouble area
- Relearn focusing on trouble area (see instructor, get tutoring)

How to study for final exam

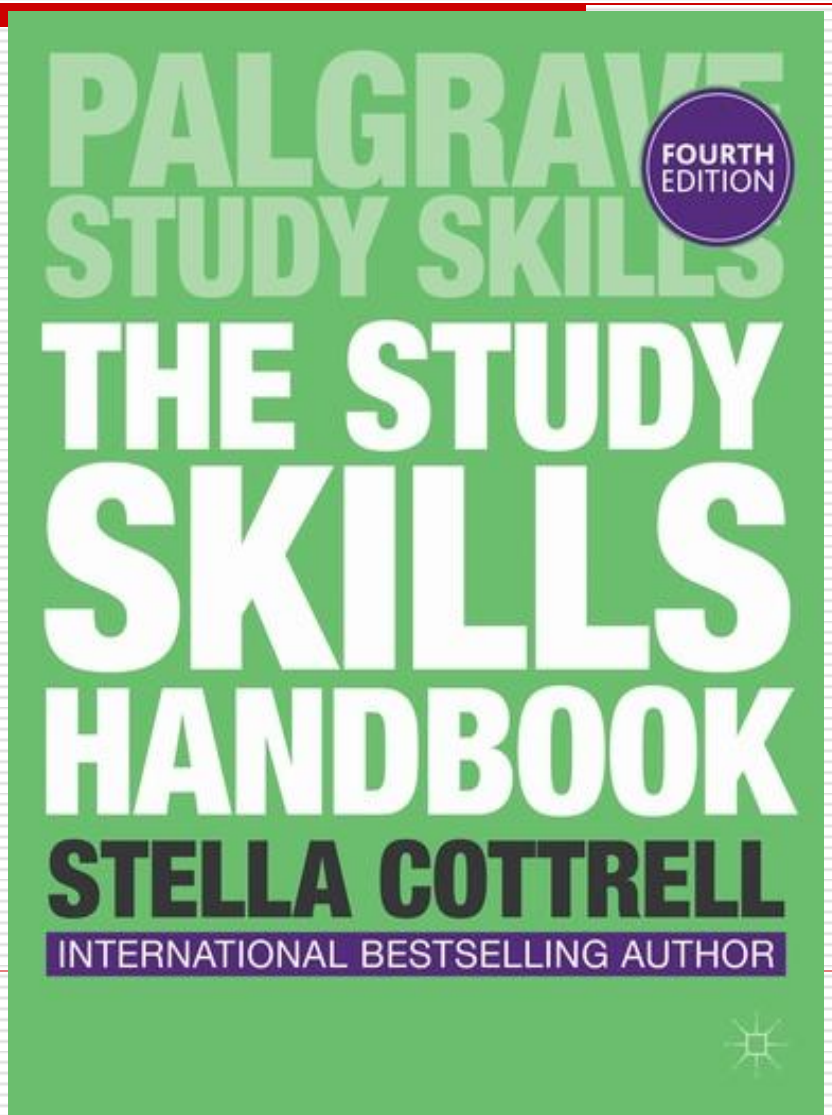
- If you receive B it means that you did not learn 11%-20% of the materials
- If you receive C it means that you did not learn 30% of the materials
- Prioritize information according to its importance

Take Home Message

Getting the most out of lectures is a skill you have to acquire to pave the way towards academic success



References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http://www.ucc.vt.edu/stdysk/stdyhlp.html

http://www.wikihow.com/Actively-Learn-During-Lectures

http://www.howtostudy.com/

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Key words:

- Learning from lectures
- Getting the most out of lectures
- Study skills
- Note taking and in-class skills
- Editing lecture notes
- How to study

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