Announcements/Reminders

- We will start using Clickers this Friday, Sept. 12
  - Register your Clicker in MyLS
- Your first set of End-of-Module quizzes are due tomorrow (Tues., Sept. 9 at 11:59PM)!
  - Modules 3, 4 and 5
- Tutorials start **NEXT** week
  - ODD-numbered sections meet for first time during week of Sept. 15 (EVEN-numbered section meet the following week)
  - Materials posted on the BI110 Tutorial MyLS page

1

WHMIS Quiz via My Learning Space

Website	mylearningspace.wlu.ca
Login	Novell Username and Password *example* John Smith, ID#123456780 Birth date May 1, 1992 login: smit6780 (first four, last four) password: 05011992 (MMDDYYYY)
Registration	Click on "Self Registration" at top right of page Click on "WHMIS" and follow instructions to enroll
Quiz	Follow instructions for BI110 and CH110 students on the main page of the WHMIS course: • Review online reading material if necessary • "WHMIS for BI110 and CH110 Students – Fall 2014" Quiz • 70% is a pass – you may retry the quiz if 70% is not achieved
Due Date	Friday September 12th You must complete the quiz in order to attend labs!
Help?	Problems accessing the software: My Learning Space – myls@wlu.ca Problems with the course content: WHMIS – Sarah Lamb slamb@wlu.ca

BI110 – Lecture 2, Sept. 8

- Supplemental Instruction (S.I.) Session Info
- Finish discussing course outline
- Module 1 – Evolution and Life on Earth

3

LAURIER
Inspiring Lives.

BIOLOGY 110 S.I. SESSIONS

- Every Tuesday with Shane from 8:30-10 pm in BA202 beginning Sept 16th.
- Every Wednesday with Hailey from 7-8:30 pm in BA208 beginning Sept 17th.

What is S.I.?

- Peer collaborative study sessions with a senior student.
- Students engage through discussion and problem solving to understand course content, learn new strategies for student success, and prepare for tests and assignments.
- S.I. is FREE.
- S.I. participants, on average, get higher course grades!

Evaluation and Mark Distribution

- Lecture component is worth 70% of final grade
- Tutorial component is worth 30% of final grade
- You ***must*** pass ***both*** components to pass the course
- ***Lecture*** mark breakdown:

Component	Weight*	Notes
End-of-Module Quizzes	10% (7%)	Approx. 5 to be assigned throughout the term; usually to be completed every other Tuesday by 11:59PM
In-class Clicker Q's	10% (7%)	Every lecture, starting Friday, September 12
Mid-term exam 1	20% (14%)	Scheduled for **Friday, October 3**, in-class
Mid-term exam 2	20% (14%)	Scheduled for **Friday, November 7**, in-class
Final exam	40% (28%)	To be scheduled by Registrar's Office btw **Dec. 6 & 19** *(Do NOT make travel plans during the exam period!!)*
Total	100% (70%)	

**Weight* indicates how much each component is worth of the *Lecture grade*; the number in brackets indicates how much each component is worth for the course overall.

Final marks will be rounded up (e.g. 69.5 -> 70.0). But requests to "bump" grades up (*e.g.* you have a "high B", but think you deserve a B+ because you "worked really hard") will ***not*** be considered under any circumstances.

End-of-Module Quizzes

- Worth 10% of the Lecture mark (7% overall)
- Will be assigned approximately 5 times throughout the term (several modules at a time); to be completed by Tuesdays at 11:59PM
- Meant to provide incentive to keep up with reading
- First set of quizzes **due Tuesday, Sept. 9**
  - Modules 3, 4 & 5

Clickers

- We will use Clickers in BI110 in virtually every lecture, starting next Friday, September 12
  - Can use "old" or new (iClicker2)
- Worth 10% of Lecture grade
- Approx. 1/3 of the clicker mark will be for participation (attendance); the rest is for accuracy
- Your lowest 5 clicker marks will be automatically dropped when calculating your clicker mark

Midterms and Final Exam

- All midterms and exams will be Multiple Choice
- Two in-class midterms:
  - Friday, October 3 (20% of Lecture grade)
  - Friday, November 7 (20% of Lecture grade)
- Final exam scheduled between Dec. 6-19
  - Cumulative
  - Worth 40% of lecture grade

Tentative lecture schedule

Approx. Date(s)	Topics	Module(s)
Sept 5	Introduction to BI110; Evolution and Life on Earth	1
Sept 8, 10, 12	Energy & Matter; Water, Cells	2, 6, 13
Sept 15,17,19	Origin of Life; Early Evolution of Life; Eukaryotic cells; Cytoskeleton, Extracellular Structures	73, 74, 14-16
Sept 22, 24, 26	Cell Membranes; Membrane Transport, Exocytosis & Endocytosis, Cell Signalling	17-20
Sep 29, Oct 1	Signal Transduction, Hormones as Signalling Molecules, Vision	21, 85, 83
Fri. Oct. 3	**Midterm I, in-class**	
Oct 6, 8, 10	Metabolism, ATP and Cellular Work, Biological Energy Transfer, Cellular Respiration I (Glycolysis)	22-25
Oct 13, 15, 17	*Thanksgiving* and Fall Reading Week: **no classes**	
Oct 20, 22, 24	Cellular Respiration II, Fermentation & Anaearobic Respiration	26, 27
Oct 27, 29, 31	Photosynthesis	28-31
Nov 3, 5	Cell Division, Cell Cycle Control	32, 33
Fri. Nov. 7	**Midterm II, in-class**	
Nov 10, 12, 14	Apoptosis; Cancer; Inheritance in the Sexual Life Cycle; Meiosis and Sexual Reproduction	34, 55, 35, 36
Nov 17, 19, 21	Mendel's Principles; Mendelian Inheritance; Non-Mendelian Inheritance; Genetic Inheritance in Humans	37-40
Nov 24, 26, 28	Chromosome Theory, DNA, DNA Replication	41, 44, 45
Dec 1, 3	Chromosomes, Review	47
Btn Dec 6-19	Final exam, scheduled by Registrar's Office (TBA)	Cumulative

Tutorials

- Coordinator:

  Dr. Fengshan Ma, N3035, extension 3383

  Email: fma2@myls.wlu.ca (MyLS)

- 20 sections
  - Meet on ***alternating weeks***
  - Details can be found in the **Tutorial Syllabus,** posted on the BI110 Tutorial MyLS page.

Tutorials

- Goals:
  - Increase your awareness of how scientific findings are reported
  - Emphasize *and apply* lecture material
  - Practice writing skills
- Tutorial Sessions:
  - Read and summarize papers from the primary literature
    - » Answer questions about the study, or
    - » Write a short summary of the paper (group, individual)
- On-line tutorial assignments
  - Intended to reinforce lecture material

Tutorials

- Tutorial sections meet every other week.
  - ***No tutorials this week***
  - Five in-class Tutorials for the term
  - You must attend the section you are registered for
- Tutorials start the week of Sept 15
  - ODD-numbered tutorial sections meet for the first time during the week of Sept 15 (week 3)
  - EVEN-numbered tutorial sections meet for the first time during the week of Sept 22 (week 4)
- **On-Line tutorial Assignments**
  - Available under Assignments on e-text website
  - 5 assignments throughout the term due every other Tuesday starting Tuesday, Sept. 16

The Tutorial Component = 30% course mark

- Tutorial attendance and assignments = 20%
- On-line Tutorial Assignments = 10%

Tutorials		
Tutorial #	Attendance	Assignment
1	1	(none)
2	0.5	4
3	0.5	4
4	0.5	4
5	0.5	5
Subtotal	3	17

On-line Exercises	
Exercise #	Mark
1	2
2	2
3	2
4	2
5	2
Subtotal	10

Module 1: Evolution & Life on Earth

ANT Photo Library/Science Source.

Figure 1

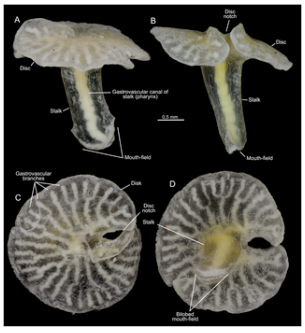
Biodiversity

D.P. Wilson/FLPA/Science Source.

Cuttlefish

Biodiversity

- New species being discovered all the time
- Dendrogramma
- Dreadnoughtus

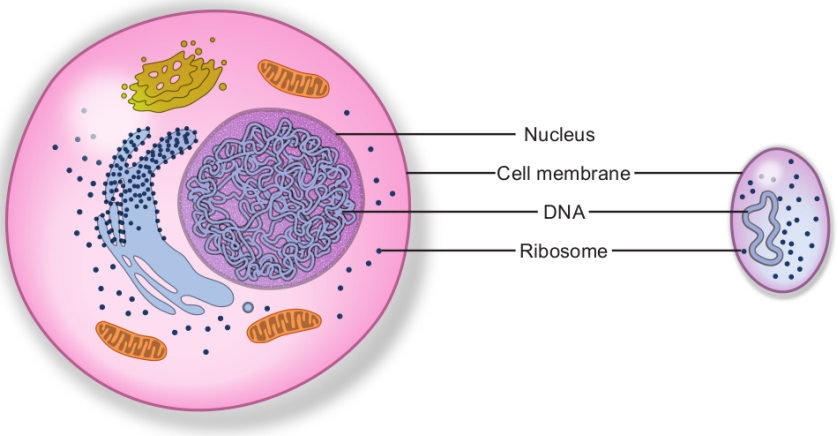


All living organisms

- Have one or more cells
- Require energy
- Metabolize
- Grow
- Respond to stimuli
- Adapt
- Reproduce

Figure 2

Cells are the basic units of life



Biological classification is a hierarchy in which small groups are nested into larger ones.

Species are designated using both their genus and species names.

Figure 14

Three-domain tree of life

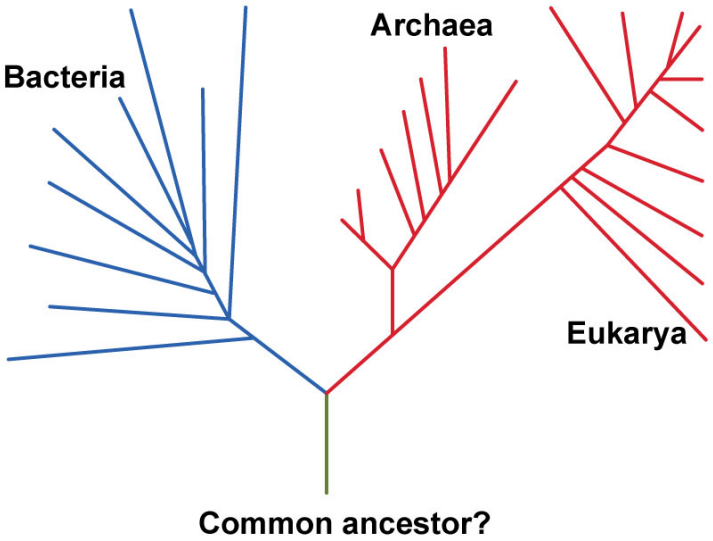
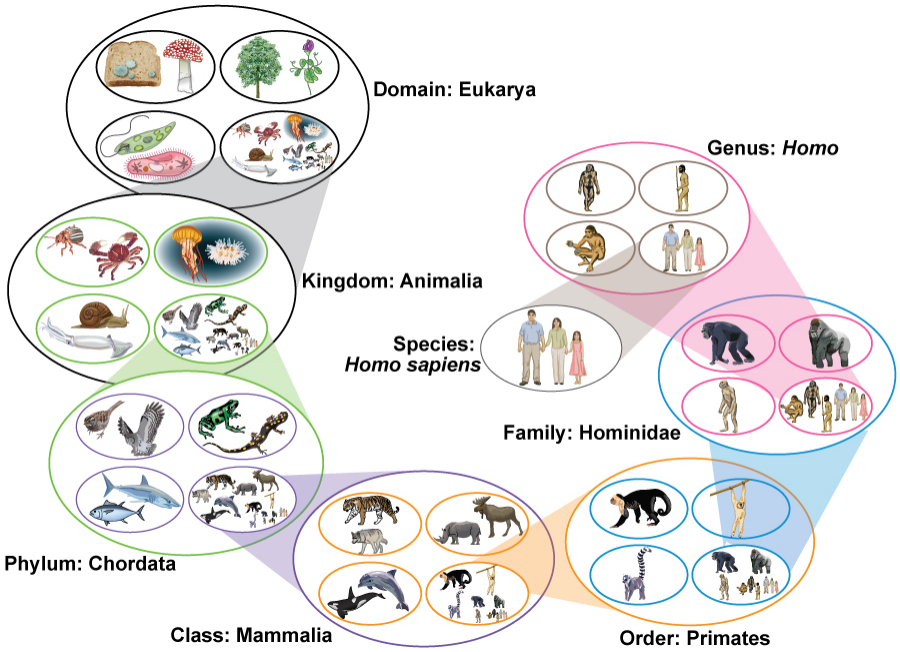


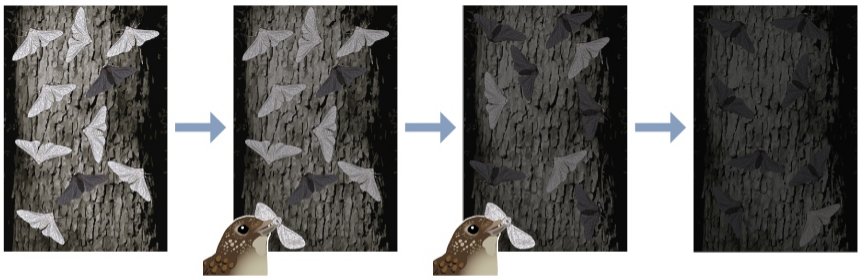
Figure 5



The theory of evolution is the cornerstone of modern scientific understanding of life.

Figure 7

Natural selection



Evolution operates at two different scales in populations: microscales & macroscales.

Figure 8

(left) Gerald C. Kelley/Science Source. (right) Thomas & Pat Leeson/Science Source.

The geographic isolation of squirrels

"Nothing in biology makes sense except in the light of evolution."

Theodosius Dobzhansky
(1900-1975)

Figure 10a

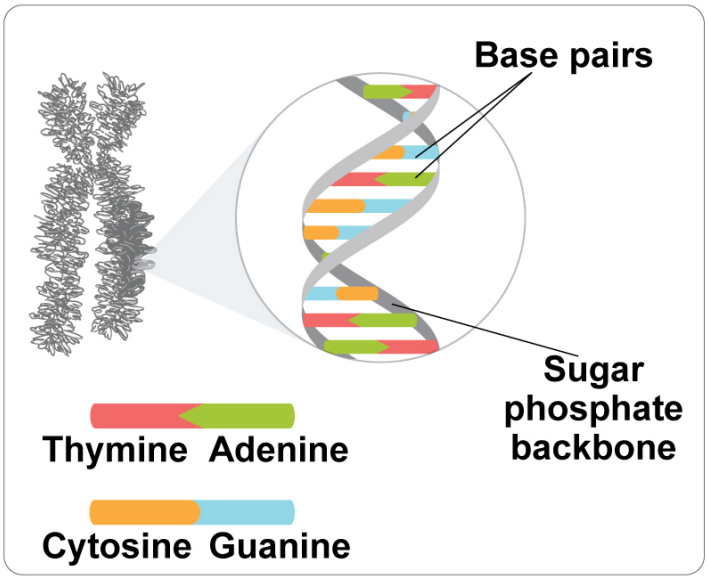


Figure 10b

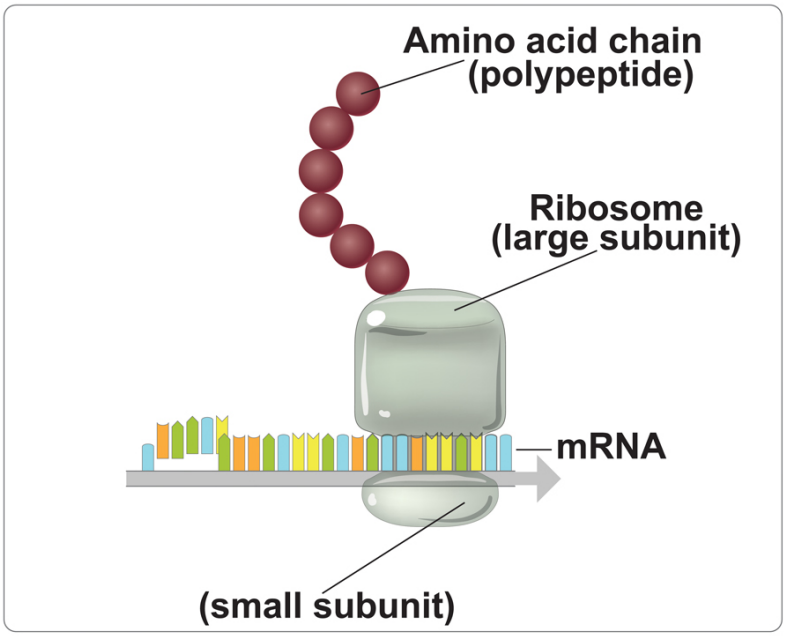


Figure 11

Cell membranes

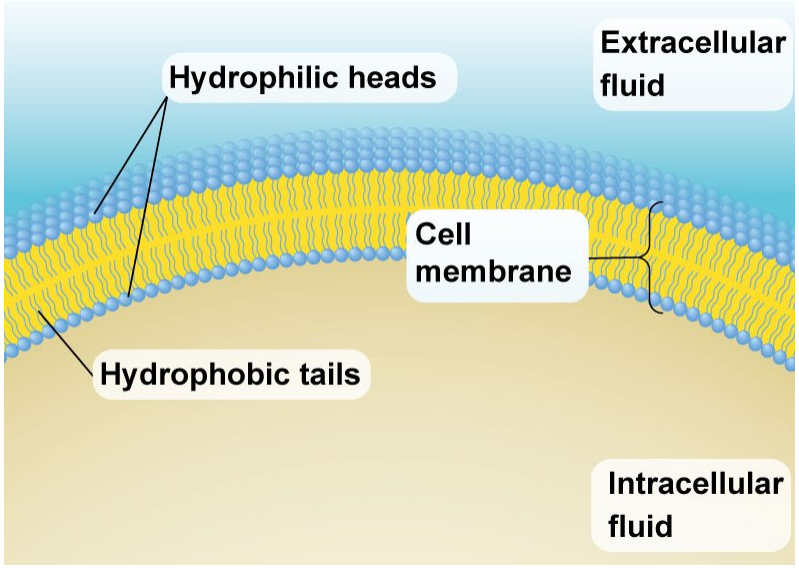


Figure 12

ATP-ADP Cycle