ANIMALS
SC/BIOL 2030 - 4.0 [FALL 2018]
LECTURE OUTLINE

• Introduction to BIOL 2030 - Animals - Lectures

• Introduction to BIOL 2030 - Animals - Labs
  - People and contact information
  - When, where, textbook etc.
  - Other useful material
  - Course goals
  - Lecture format
  - Lecture schedule
  - Grades/Exams
INTRODUCTION - PEOPLE

Course Director: Dr. Scott P. Kelly
Location: Farq Room 021 (basement)
Telephone: 416-736-2100 Ext. 77830
Email: spk@yorku.ca (preferred method of contact)
Office Hours: Thursdays 1:30 – 2:30 PM OR by appointment

Lab Director: Chun Chih Chen (PhD candidate)
Location: Farq Room 021
Email: biol2030@yorku.ca
INTRODUCTION - WHEN, WHERE, TEXT ETC.

SC/BIOI 2030 - 4.0 [FALL 2018]

Lectures: Tuesday & Thursday - 11:30 AM to 1:00 PM
Laboratories: Tuesday to Friday, LB 124/126 [Labs start Sept 18th 2018]

Text: Animal Diversity 8th edition
Hickman C.P., Roberts L.S., Keen S.L.,
Larson A. & Eisenhour D.J.
McGraw Hill
7th Edition Revisions

7th edition

Can I buy the 7th or 6th Ed. (cheaper!)
YES - You must assume full responsibility for differences between editions

Details in Preface (8th Ed. pp ix – xi)
- updated phylogenies and taxonomies
- new and revised cladograms
- consolidated phylum characteristics
- redrawn illustrations (coupled with pictures)
- new pictures
- updated references

6th edition
Don’t buy the textbook….
York Bookstore now rents textbooks
WHAT IS THE TEXTBOOK FOR?

Text: Animal Diversity 8th edition
Hickman C.P., Roberts L.S., Keen S.L.,
Larson A. & Eisenhour D.J.
McGraw Hill

1. Supplemental reading
If something is not clear in class, use the textbook to gain a better understanding

2. Assigned reading
Reading material assigned in class (this is examinable!)

3. Laboratory reference/guide
Use illustrations/diagrams etc. to help in labs

NOT ALL TEXTBOOK MATERIAL WILL BE COVERED IN CLASS

Textbook material not covered in class WON’T appear in exams
HIGHLY RECOMMENDED!!

Henderson’s Dictionary of Biological Terms, 16th edition

~ 22 000 entries
- deals with all major fields in biology and more

OTHER USEFUL MATERIAL

Dictionary of Biology
OTHER USEFUL MATERIAL

An Atlas of Invertebrate Structure
[by Freeman WH & Bracegirdle B]

- Particularly useful for deciphering material to be observed under a microscope*

- Two dissection drawings**
  - Lab 1* (Unicellular eukaryotes)
  - Lab 2* (Porifera & Cnidaria)
  - Lab 3* (Platyhelminthes/Nematodes)
  - Lab 5*,** (Annelida)
  - Lab 7*,** (Echinodermata)

- reserve copies in Steacie Library
Poriferan (Grantia sp.) [Transverse Section]
Liver fluke (*Fasciola hepatica*)
[Whole mount]
OTHER USEFUL MATERIAL

Dissection Guides
[by Rowett HGQ]

- step by step guide (with illustrations) to the dissection of select organisms

Volume 5: The Invertebrates
- Clam (Lab 4)
- Earthworm (Lab 5)
- Crayfish (Lab 6)

Volume 2: The Dogfish (Labs 8 & 9)

- reference (non-circulating) copies in Steacie Library
Dissection Guides
[by Rowett HGQ]

Selected Invertebrates—Earthworm

Fig. 2

Holding the worm in the left hand as shown, make a small slit in the body-wall in the mid-dorsal line in the region of the clitellum. Be very careful not to cut deeply.

Keeping the points of the scissors well up, cut forwards as far as the prostomium.

NOTE. When dissecting Eisenia, diverge from the mid-line to either right or left while cutting through segments 12-8 in order to avoid the dorsally placed spermothecae.

Fig. 3

Place a pin through the first segment and another through the tail, so that the worm is fully extended. Starting from the anterior end, place pins in pairs as nearly opposite to one another as possible. Use the pins themselves to tear the septa and loosen the body-wall between the placing of each pair.

N.B. MAKE SURE THAT THE WORM IS FULLY EXTENDED AS YOU WORK. The alimentary canal should be straight. It is never satisfactory if the stretching has to be done later by moving the pins. Once in place, all but the tail pin should remain in place till the end of the dissection.

NOTE. Each pin should be sloped outwards so that it takes the strain and does not interfere with the free use of the instruments.

Cover the dissection completely with water.
OTHER USEFUL MATERIAL

Dissection Guides
[by Rowett HGQ]

Fig. 4
Use pins where necessary to adjust the positions of the seminal vesicles. DRAW.
COURSE GOALS

An introduction to the diversity of animals

- The provision of factual and conceptual information about animals with an emphasis on structure and function

- Provide an opportunity to develop dissection skills and appreciate the internal architecture and organization of various animal groups

- Facilitate the development of observation, interpretation and note-taking skills as well as communication of knowledge
LECTURE FORMAT

Organization and Coverage of Material
"Phylogenetic Approach"

• Classification and Characteristics

• Form and Function (whole animal to cellular level)
  - Locomotion
  - Feeding and Digestion
  - Excretion and Osmoregulation
  - Reproduction and Life Cycles
  - Nervous System and/or Sensory Systems

• Research Focus and/or Additional Material
LECTURE FORMAT

• Lecture notes* will be posted on-line at the end of each week (web address: https://moodle.yorku.ca/)
  
  *Research Focus and/or Additional Material lecture notes will NOT be posted!

• When possible (or necessary), lecture notes will be posted directly after class

• Lecture note posting policy WILL NOT CHANGE

• Questions during lecture are very welcome/encouraged

• Please respect your classmates
  
  - cell phones off!
  - use your computer/tablet etc. for class related material
  - keep quiet when questions are being asked/answered
  - get a room!!
LECTURE/LAB SCHEDULE

SEPTEMBER 2018
- 6th - Introduction/Classification
- 11th - Architecture/Unicellular Eukaryotes
- 13th - Unicellular Eukaryote
- 18th - Porifera/Cnidaria
- 20th - Cnidaria
- 25th - Platyhelminthes
- 27th - Platyhelminthes

OCTOBER 2018
- 2nd - Acoelomates
- 4th - Mollusca
- 16th - Annelids
- 18th - Review
- 23rd – Midterm Exam
- 25th – NO CLASS
- 30th – Arthropods I

NOVEMBER 2018
- 1st – Arthropoda II
- 6th - Echinodermata
- 8th - Vertebrate Beginnings
- 13th - Fishes I
- 15th - Fishes II
- 20th - Amphibians
- 22nd - Reptiles
- 27th - Aves
- 29th – NO CLASS

DECEMBER 2018
- 6th, Echinoderms/Chordata I
- 13th, Chordata II
- 20th, Chordata III
- 27th, Lab Exam

LABS

- 18th, Unicellular Eukaryotes
- 25th, Porifera/Cnidaria
- 2nd, Nematodes/Platyhelminthes
- 16th, Mollusca
- 23rd, Annelids
- 30th, Arthropoda
Final grades will be determined as follows:

- Midterm Exam 20%*
- Final Exam 40%**
- Laboratory Work 30%
- Laboratory Exam 10%

Multiple choice and short question format

*Material covered will include all lecture material (including assigned reading) up to and including Oct 16th (i.e. Annelids)

**Will include **ALL** lecture and assigned reading material covered through the entire course (i.e. a cumulative exam)
GRADES/EXAMS

Midterm Exam:
- 75 minute exam
- 30 multiple choice questions
- Short question/s worth 10 marks
- Balanced according to material covered

Final Exam:
- 3 hour exam
- 70 multiple choice questions
  - 20 pre-midterm questions
  - 50 post-midterm questions
- Short question/s worth 10 marks (post-midterm material)
- Balanced according to material covered

In both cases, example questions will be given in review sessions
ACADEMIC HONESTY

All Senate Policies on Academic Honesty Apply


Avoid ambiguous behaviour during exams

Missed Exams

- an exam missed due to illness requires an Attending Physicians Statement (within 48h)


- midterm make-up exam will be in a written format (i.e. not multiple choice)
LECTURE OUTLINE

• Introduction to BIOL 2030 - Animals - Lectures
• Introduction to BIOL 2030 - Animals - Labs
Lab Coordinator: Chun Chih Chen
Location: Farquharson 021
Email: biol2030@yorku.ca
Office Hours: By appointment

- Lab logistics
- Scheduling
  (make-ups, temp. switches)
- Marking conflicts (labs)
- Student-TA conflicts
- Lab attendance issues
The lab manual is available in the Bookstore.

Manuals from previous years are not permitted in the labs and will be confiscated.

Read Introduction pages in the lab manual (QUIZ#1)

Always bring your lab manual to the lab!

Student Conduct Agreement (pg. 5 and 7) must be handed in prior to starting Lab #1

Sample lab exam questions!

Lab coats and goggles are MANDATORY!
You will also need a dissection kit.
<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
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- Labs begin on the week of **September 17th**. Supplementary info will also be available on Moodle.
- Labs run weekly.
- Permanent lab switch closes **Wednesday September 12th**.

**No labs during the week of October 8th (Reading Week)**
BIOL2030 Lab Switches

- Labs begin on the week of **September 17th**.
- Permanent lab switch closes **Wednesday September 12th**.

Switching labs...

- You will need to find someone to switch the lab section with yourself. (An online lab switch forum will be available)
- When you and your partner agree to switch labs, you will need to make an appoint with the lab coordinator.
- You must both come to the lab coordinator with your valid student ID, then you will both fill out a course transaction form.
- Please go to the lab you switch into when the labs start. The lab change may not show up on your timetable immediately.

The Biology Undergraduate Office will NOT process lab switches.
Lab Attendance is MANDATORY!

- If you **miss a lab**, or know in advance that you can’t attend a lab, contact **me** via email (**biol2030@yorku.ca**)
- Do not spam with scanned doctor’s notes or images of what is wrong with you (I will delete emails with attachments)
- If you **miss a lab**, you must present me with an **acceptable reason & documentation*** for your absence in person (e.g., **ORIGINAL** Attending Physician’s Statement)
- All forms of reproduction for official documentations will be refused immediately
- You **MUST** receive **written permission** from me to attend an alternate lab section.

* - proper format (enveloped, dated, section + lab# missed)
BIOL2030 Lab Marks

9 Laboratories  30% of Final Course Mark:
80% - best 8 out of 9 completed labs (/10):
  • Pre-lab quiz (/5) + Lab performance (/5)
20% - two marked dissections

Laboratory Exam  10% of Final Course Mark

Laboratory Portion  40% of Final Course Mark
Q. Does it really matter if I skip a lab? (For those who are wondering…)

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<th>Lab</th>
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<tr>
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Lab mark = \( \frac{6+7+7+8+9+9+9+10+5}{9} = 7.78 \) /10

If the student completed all 9 labs, then the lowest lab is dropped.

Lab mark = \( \frac{6+7+7+8+9+9+9+10}{8} = 8.13 \) /10
Q. Does it really matter if I skip a lab?

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Average for 9 labs = \((6+7+7+8+9+9+9+10+5)/9\) = 7.78 /10

Best 8 out of 9 mark = \((6+7+7+8+9+9+9+10)/8\) = 8.13 /10

If the student missed the lab and do not provide official documentation, the lab will be automatically assigned a mark of zero. The best seven (7) out of the remaining eight (8) lab marks, **PLUS THE MARK OF ZERO** for the missed lab, will be used to calculate 80% of the lab grade!

Lab mark = \((7+7+8+9+9+9+10+0)/8\) = 7.38 /10
Q. Does it really matter if I skip a lab? **YES.**

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</tbody>
</table>

Average for 9 labs = \((6+7+7+8+9+9+9+10+5)/9\) = **7.78 /10**

If you attend all labs = \((6+7+7+8+9+9+9+10)\)/8 = **8.13 /10** 😎

If you skip a lab = \((7+7+8+9+9+9+10+0)\)/8 = **7.38 /10** 😭

**Summary:** Even if you think you may not do well in a particular lab quiz, it is better to accept your fate and come to the lab than skipping it completely.

**This is non-negotiable.**
Pre-lab quiz

- ~ 10 mins, at beginning of each lab; do **n’t be late**!
- The quiz will be 5 to 6 questions

- The questions will include (for labs 2-9):
  - Taxonomic characteristics from **curre**nt **l**ab
  - Materials & observations from **previou**s **l**ab

- See lab manual for quiz 1 content
- You will not be given extra time if you are late

You must read and study the labs ahead of time!
Lab Performance

- Preparedness for labs
- *(e.g., safety glasses, lab coat, dissection kit)*
- Dissection skills
- Completeness & quality of notes & drawings
- Completion of assigned questions from the manual
- Safety & cleanup in the lab

**PERFORMANCE MARKS ARE FINAL AND CANNOT BE RENEGOTIATED WITH YOUR TA.**
During the week of November 27\textsuperscript{th}, you will be writing your BIOL2030 lab exam…

- The lab exam is bell-ringer format
- The lab exam will be 10\% of your BIOL2030 grade
- The lab exam will run approximately 45 minutes long
- The exams will be during your regular lab time slot
BIOL2030 Lab Exam

During the week of November 27th, you will be writing your BIOL2030 lab exam...

- The lab exam is bell-ringer format
- The lab exam will be 10% of your BIOL2030 grade
- The lab exam will run approximately 45 minutes long
- The exams will be during your regular lab time slot
- There will be 20 (twenty) stations total, each with 2 questions
- You will have 1.5 minute at each station
- I will give more information about the lab exam in a future lecture
Moodle Course Page
https://moodle.yorku.ca/moodle

Login with Passport York ID
& Click on SC/BIOL 2030 Animals
  ▪ Supplemental Laboratory Materials (dissection guides, videos, diagrams, click on each link)
  ▪ Course information
  ▪ Reading List in the Lab Manual
  ▪ NEW F2018! Dissection Videos!

Course announcements sent to YorkU email