Schedule

## Assignment Schedule *SUBJECT TO CHANGE*

|  |  | Class Topic | Assignment Due | Lab |
| --- | --- | --- | --- | --- |
| Week 1 |  |  |  |  |
| 8/21 | M | Intro to Course |  |  |
|  | W | Heavyweight Whale Discussion [[html](posts/2023-08-23-the-colossal-whale/index.qmd)] [[paper](https://www.nature.com/articles/s41586-023-06381-1)] | (Reading Assessment) | Lab1: PC1-G-HR/Data analysis [[overview](labs/Lab1-heart-rate-and-data-analysis/index.qmd)] [[lab manual](labs/Lab1-heart-rate-and-data-analysis/Lab1-data-aquistion-finger-pulse.pdf)] [[protocol](labs/Protocols/p1-intro-finger-pulse.pdf)] |
|  | F | Library Day - Meet at Hamilton [[html](posts/2023-08-25-Library-day/index.qmd)] |  |  |
| Week 2 |  |  |  |  |
| 8/28 | M | Metabolism [[html](posts/2023-08-28-Metabolism/index.qmd)] [[reading assignment and questions](discussions/Discussion_Week_2.pdf)] [[HWA readings](https://drive.google.com/drive/folders/1ONGdTPdeQz2lgGgAiWyZ_yGRmmcNSwoV)] |  |  |
|  | W | Size and Scaling [[podcast](https://youtu.be/_NDNa_3Bon8)] |  | Lab2: PC2-G-Honolulu Zoo [[lab manual](labs/Lab2-zoo/Lab2.qmd)] |
|  | F | Adjustments to Metabolism | PS1: Metabolism [[pdf](homework/HW1metabolism.pdf)] |  |
| Week 3 |  |  |  |  |
| 9/4 | M | Labor Day Holiday | Choose your Fossil |  |
|  | W | Temperature [[html](posts/2023-09-06-Temperature/index.qmd)] [[discussion](discussions/Discussion_Week_3_temperature.pdf)] |  | Lab3:PC3-IWS-Peripheral Circ/Dive Resp [[overview](labs/Lab3-human-peripheral-circulation-dive-response/Lab3.qmd)] |
|  | F | Iterative Method |  |  |
| Week 4 |  |  |  |  |
| 9/11 | M | Heterothermy (see last week)/Cardiac Function [[html](posts/2023-09-11-cardiac-function/cardiac.qmd)] | PS2: Temperature [[pdf](homework/HW2heat_temp.pdf)] |  |
|  | W | Cardiac Regulation | Background Design 1 [[html](projects/2023-09-06-design-background/index.qmd)] | Lab Practical / Lab4: PC3-G-ECG/Cardiac Function [[overview](labs/Lab4-human-ecg/Lab4.qmd)] |
|  | F | Design 1 chat |  |  |
| Week 5 |  |  |  |  |
| 9/18 | M | Sustained Metabolic Scope Paper [[discussion](discussions/Discussion-Week4-metabolic-ceiling.pdf)] [[Hammond and Diamond 1997](https://drive.google.com/drive/u/1/folders/1psPVIMIJVUuySxp9MHSQxxAhlvy-O9kK)], [[optional: Peterson et al. 1990](https://drive.google.com/drive/u/1/folders/1psPVIMIJVUuySxp9MHSQxxAhlvy-O9kK)] |  |  |
|  | W | Feeding [[html](posts/2023-09-18-feeding/feeding.qmd)] [[discussion](discussions/Discussion-Week5-feeding&digestion.pdf)] |  | Lab5: PC1-IWS-Toad Heart [[overview](labs/Lab5-toad-heart/Lab5.qmd)] |
|  | F | Design 1 workshop - bring your draft |  |  |
| Week 6 |  |  |  |  |
| 9/25 | M | Digestion [[html](posts/2023-09-25-digestion/digestion.qmd)] [[discussion](discussions/Discussion-Week5-feeding&digestion.pdf)] | Design 1 Due [[assignment](projects/design1.qmd)] [[pdf](projects/1.MetabolismTempDesign1.pdf)] [[turn in](projects/design1-turnin.qmd)] |  |
|  | W | Specialized Digestive Systems | Peer Critique 1 [[turn in](projects/design1-turnin.qmd)] | Design Critique Session |
|  | F | Max Size Herbivores Paper Claus 2003 |  |  |
| Week 7 |  |  |  |  |
| 10/2 | M | Impromptu Design 1 |  |  |
|  | W | Max Size Herbivores Paper Claus 2003 | Design 1 Rewrite [[Due midnight](https://drive.google.com/drive/folders/1lRh1ZuG4q453Oo0xxSZWDgYWxuD6oo9e?usp=sharing)] | Lab6: PC2-G-Lobster Heart [[overview](labs/Lab6-lobster-heart/Lab6.qmd)] |
|  | F | Neurons [[html](posts/2023-10-02-neurons/neurons.qmd)] [[discussion](discussions/Discussion-Week7-neurons-signal-propagation.pdf)] |  |  |
| Week 8 |  |  |  |  |
| 10/9 | M | Synapses/Sensory Receptors | PS3: Feeding & Digestion [[pdf](homework/HW3feeding_digestion.pdf)] |  |
|  | W | Muscles [[html](posts/2023-10-09-muscles/muscles.qmd)] [[discussion](discussions/Discussion-Week8-muscle.pdf)] |  | Lab 7:PC1-G-Vertebrate Action Potential [[overview](labs/Lab7-toad-nerve/Lab7.qmd)] |
|  | F | Muscles II |  |  |
| Week 9 |  |  |  |  |
| 10/16 | M | Motor Control [[html](posts/2023-10-16-muscles2/muscles2.qmd)] [[discussion](discussions/Discussion-Week8-muscle.pdf)] | Design 2 Feeding & Digestion [[html](projects/design2-FAQ.qmd)] [[resources](projects/resources-digestion.qmd)] [[turn in](projects/design2-turnin.qmd)] |  |
|  | W | Biomechanics | Peer Critique 2 | Design Presentations |
|  | F | Biomechanics |  |  |
| Week 10 |  |  |  |  |
| 10/23 | M | Locomotion on Land | PS4: Neurons [[pdf](homework/HW4neurons.pdf)] |  |
|  | W | Locomotion in Fluids |  | Lab8: PC2-G-Human Muscle [[overview](labs/Lab8-human-emg/Lab8.qmd)] |
|  | F | Blood | Rewrite Design 2 Due |  |
| Week 11 |  |  |  |  |
| 10/30 | M | Ventilation | PS5: Muscles & Biomech [[pdf](homework/HW5muscles-biomechanics.pdf)] |  |
|  | W | Aquatic Respiration |  | Lab9: PC3-G-Toad Muscle |
|  | F | Aerial Respiration |  |  |
| Week 12 |  |  |  |  |
| 11/6 | M | Symmorphosis: Weibel, Taylor, and Hoppeler (1991) The concept of symmorphosis: A testable hypothesis of structure-function relationship. PNAS 88:10357-61 | PS6: Respiration |  |
|  | W | Osmoregulation |  | Lab10:PC1-I-Toad Muscle Independent |
|  | F | Veterans Day Holiday |  |  |
| Week 13 |  |  |  |  |
| 11/13 | M | Excretion | Design 3 Resipration |  |
|  | W | Excretion | Peer Critique 3 | Lab 11: PC1-G-Human EEG |
|  | F | Hormonal Control |  |  |
| Week 14 |  |  |  |  |
| 11/20 | M | Reproduction | PS7: Osmoregulation |  |
|  | W | Thanksgiving Holiday | Design 3 Rewrite | No Labs |
|  | F | Thanksgiving Holiday |  |  |
| Week 15 |  |  |  |  |
| 11/27 | M | Immune System |  |  |
|  | W | Immune System | Design 4: Osmoreg/Own | Lab 12: PC2-G-Human Renal |
|  | F | Student Presentations |  |  |
| Week 16 |  |  |  |  |
| 12/4 | M | Student Presentations |  |  |
|  | W | Student Presentations |  | Turn in Lab 12 |
|  |  |  |  |  |
| 12/11 | M | Finals Week | Design Term Paper Due |  |
|  |  |  |  |  |