Schedule

## Assignment Schedule *SUBJECT TO CHANGE*

|  |  | Class Topic | Assignment Due | Lab |
| --- | --- | --- | --- | --- |
| Week 1 |  |  |  |  |
| 8/27 | T | Intro to Course/Megalodon Discussion [[html](posts/2024-08-27-megalodon-model/index.qmd)] [[paper](https://www.nature.com/articles/s41586-023-06381-1)] [[Google Drive copy](https://drive.google.com/drive/folders/1M8ygipZEd9OUdld45C4BGgfJw2KWUKYk)] | (Reading Assessment) | Lab1: PC1-G-HR/Data analysis [[overview](labs/Lab1-heart-rate-and-data-analysis/Lab1.qmd)] [[podcast](https://youtu.be/pujrG6zhTJE)] [[lab manual](labs/Lab1-heart-rate-and-data-analysis/Lab1-data-aquistion-finger-pulse.pdf)] [[protocol](labs/Protocols/p1-intro-finger-pulse.pdf)] |
|  | Th | Library Day - Meet at Hamilton [[html](posts/2024-08-29-Library-day/index.qmd)] |  |  |
| Week 2 |  |  |  |  |
| 9/3 | T | Metabolism [[html]] [[reading assignment and questions](discussions/Discussion_Week_2.pdf)] [[HWA readings](https://drive.google.com/drive/folders/1ONGdTPdeQz2lgGgAiWyZ_yGRmmcNSwoV)] |  | Lab2: PC2-G-Honolulu Zoo [[lab manual](labs/Lab2-zoo/Lab2.qmd)] |
|  | Th | Size and Scaling [[podcast](https://youtu.be/_NDNa_3Bon8)] |  |  |
|  | F |  | PS1: Metabolism [[pdf](homework/HW1metabolism.pdf)] |  |
| Week 3 |  |  |  |  |
| 9/10 | T | Temperature [[html]] [[discussion](discussions/Discussion_Week_3_temperature.pdf)] | Choose your Fossil | Lab3:PC3-IWS-Peripheral Circ/Dive Resp [[overview]] |
|  | Th | Iterative Method/Heterothermy |  |  |
| Week 4 |  |  |  |  |
| 9/17 | T | Cardiac Function [[html]] | PS2: Temperature [[pdf](homework/HW2heat_temp.pdf)] | Lab Practical / Lab4: PC3-G-ECG/Cardiac Function [[overview]] |
|  | Th | Design 1 chat | Background Design 1 [[html]] |  |
| Week 5 |  |  |  |  |
| 9/24 | T | 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)] |  | Lab5: PC1-IWS-Toad Heart [[overview]] |
|  | Th | Feeding [[html]] [[discussion](discussions/Discussion-Week5-feeding-digestion.pdf)] |  |  |
| Week 6 |  |  |  |  |
| 9/30 | M |  | Design 1 Due [[assignment](projects/design1.qmd)] [[pdf](projects/1.MetabolismTempDesign1.pdf)] [[turn in]] |  |
| 10/1 | T | Digestion [[html]] [[discussion](discussions/Discussion-Week5-feeding-digestion.pdf)] | Design Critique Session/Peer Critique 1 [[turn in]] |  |
|  | Th | Specialized Digestive Systems/Max Size Herbivores Paper Claus 2003 |  |  |
| Week 7 |  |  |  |  |
| 10/8 | T | 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]] |
|  | Th | Neurons [[html]] [[discussion](discussions/Discussion-Week7-neurons-signal-propagation.pdf)] |  |  |
| Week 8 |  |  |  |  |
| 10/15 | T | Synapses/Sensory Receptors | PS3: Feeding & Digestion [[pdf]] | Lab 7:PC1-G-Vertebrate Action Potential [[overview]] |
|  | Th | Muscles [[html]] [[discussion]] |  |  |
| Week 9 |  |  |  |  |
| 10/22 | T | Motor Control [[html]] [[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)] | Design Presentations |
|  | Th | Biomechanics | Peer Critique 2 |  |
| Week 10 |  |  |  |  |
| 10/29 | T | Locomotion on Land [[html]] [[discussion](discussions/Discussion-Week9-biomechanics-locomotion.pdf)] | PS4: Neurons [[pdf](homework/HW4neurons.pdf)] | Lab8: PC2-G-Human Muscle [[overview]] |
|  | Th | Locomotion in Fluids |  |  |
|  | F |  | Rewrite Design 2 Due [[Due midnight]] |  |
| Week 11 |  |  |  |  |
| 11/5 | T | Biomechanics and Locomotion [[html]] | PS5: Muscles & Biomech [[pdf](homework/HW5muscles-biomechanics.pdf)] | Lab9: PC3-G-Toad Muscle [[overview]] |
|  | Th | Blood and Respiratory Media |  |  |
| Week 12 |  |  |  |  |
| 11/12 | T | Aquatic Respiration [[html]] |  | Lab10:PC1-I-Toad Muscle Independent [[overview]] |
|  | Th | Aerial Respiration |  |  |
| Week 13 |  |  |  |  |
| 11/19 | T | Finish Respiration/Begin Osmoregulation [[html]] | PS6: Respiration [[due at start of class](homework/HW6respiration.pdf)] | Lab 11: PC1-G-Human EEG [[overview]] |
|  | Th | Symmorphosis: [Weibel, Taylor, and Hoppeler (1991)](https://drive.google.com/file/d/1Td1DRJpE398Mj50m5r7bm4ooiinkchct/view?usp=share_link) The concept of symmorphosis: A testable hypothesis of structure-function relationship. PNAS 88:10357-61 |  |  |
|  | F |  | Design 3 Resipration, Peer Critique 3 [[html](projects/design3-process.qmd)] [[resources](projects/design3-resources.qmd)] [[turn in](projects/design3-turnin.qmd)] |  |
| Week 14 |  |  |  |  |
| 11/26 | T | Osmoregulation 2 [[html]] |  |  |
|  | Th | **Thanksgiving Holiday** |  | No Labs |
| Week 15 |  |  |  |  |
| 12/3 | T | Excretion [[html]] |  | Lab 12: PC2-G-Human Renal [[overview]] |
|  | Th | Excretion 2 | PS7: Osmoregulation [[pdf](homework/HW7Osmoregulation.pdf)] |  |
|  | F |  | Design 3 Rewrite |  |
| Week 16 |  |  |  |  |
| 12/10 | T | Student Presentations |  | Turn in Lab 12 |
|  | Th | Student Presentations | Design 4: Osmoreg/Own (draft optional) [[html](projects/design4.qmd)] [[resources](projects/design4-resources.qmd)] |  |
|  |  |  |  |  |
| 12/17 | T | Finals Week | Design 4 Due |  |
|  |  |  |  |  |