

AQUAVET®



A Program in Aquatic Veterinary Medicine
www.aquavet.info

2022 Schedule for AQUAVET® I and AQUAVET® II

Locations:

Marine and Natural Sciences Building = MNS
Lecture rooms: MNS 200, MNS 210, MNS 213
Labs: MNS 103, MNS 107, MNS 203

Sunday, 29. May 2022

11:30–12:30 Registration – Check-In
Bayside
Apartments

13:00 Orientation
MNS 200 Dr. Donald W. Stremme – Cornell University
AQUAVET® Director

14:00 History of AQUAVET®
MNS 200 Dr. Laurie Landeau – Marinetics, Inc.
AQUAVET® Associate Director

15:00 RWU Required Safety Lecture
MNS 200 Caitlin Conley

16:00 An Overview of the Primary Marine Invertebrate Phyla we are Likely to
MNS 210 Encounter
Dr. Robert Maze – Marinetics, Inc.
AQUAVET® Associate Director

18:30 An Overview of the Primary Marine Invertebrate Phyla we are Likely to
MNS 210 Encounter (continued)
Dr. Maze

19:30 **Welcome to AQUAVET Party**
Dorm Courtyard Area (weather permitting)

Monday, 30. May 2022 – Memorial Day

8:00 Anatomy of Bilvalvia, Crustaceanss, Cephalopoda and Echinodermata as
MNS 210 they Pertain to our Lab
Dr. Maze

11:00 Marine Metazoan Parasites and an Introduction to Public Health Issues
MNS 210 (e.g. Anisakiasis), those Parasites likely to be seen in AQUAVET (a
plethora, including those of Limulus, Dorytheuthus and in our Marine
Mammals labs) and have been researched by AQUAVET students in the
past
Dr. Maze

2022 Schedule for AQUAVET® I and AQUAVET® II

13:00 **Rocky Intertidal Invertebrate Collecting** **LOW TIDE 13:32**
leave from MSN 103 (dress appropriately – will be outside and in water)

15:00 **Invertebrates – WET LAB – (need dissection kit, lab coats)**
MNS 103 Dr. Maze

18:00 **Invertebrates – WET LAB – (continued)**
MNS 103 Dr. Maze

NOTE: re-starting lab at 6pm – instead of 6:30pm

Tuesday, 31. May 2022

8:00 History of Fishes: Taxonomy from an Evolutionary and Ecological
MNS 210 Perspective
Dr. Roy Yanong – U FL – Tropical Aquaculture Laboratory

10:00 **Invertebrates – WET LAB – (need dissection kit, lab coats)**
MNS 103 Dr. Maze

13:00 **Invertebrates – WET LAB – (continued)**
MNS 103 Drs. Smolowitz and Maze

18:00 **Invertebrates – WET LAB – (continued)**
MNS 103 Drs. Smolowitz and Maze

NOTE: re-starting lab at 6pm – instead of 6:30pm

20:30 AQUAVET® I T-shirt LOGO contest
MNS 210 Dr. Landeau

Wednesday, 1. June 2022

8:00 Fish Anatomy – Structure and Function
MNS 210 Dr. Yanong

13:00 Fish Anatomy – Structure and Function (continued)
MNS 210 Dr. Yanong

15:00 Fish Physiology
MNS 210 Dr. Lysa Posner – NC State University

18:30 **Fish Diagnostics and Techniques WET LAB**
MNS 103 (need dissection kit, lab coats)
Dr. Yanong
Dr. Rod Getchell – Cornell University
AQUAVET® Associate Director

*2022 Schedule for AQUAVET® I and AQUAVET® II***Thursday, 2. June 2022**

8:00 MNS 210	Fish Physiology (continued) Dr. Posner
13:00 MNS 103	Fish Diagnostics and Techniques LAB (need dissection kit, lab coats) Drs. Yanong and Getchell
14:30 MNS 103	Fish Anatomy – Structure and Function WET LAB (need dissection kit, lab coats) Drs. Yanong and Getchell
18:30 MNS 200	Using Aquatic Animals in Research and the Role of IACUC Dr. Lisa Abbo – Marine Biological Laboratory

Friday, 3. June 2022

8:00 MNS 210	Important Diseases of Marine Invertebrates Dr. Roxanna Smolowitz – Roger Williams University
10:00 MNS 210	Life Cycles of Aquarium Raised Fish Dr. Andy Rhyne – Roger Williams University
13:00 MNS 210	Aquatic Immunity Dr. Erin Bromage – University of Massachusetts Dartmouth
18:00 MNS 210	Water Quality Dr. Laurie Landeau – Marinetics, Inc. AQUAVET® Associate Director

Saturday, 4. June 2022

8:00 MNS 203	Microbiology Lab Set Up (lab coats and dissection kits) Dr. Lester Khoo – Mississippi State University AQUAVET® Director Emeritus
10:00 MNS 203	Microbiology – Specimen Necropsy (lab coats and dissection kits) Dr. Khoo
13:00 MNS 210	Student Seminars (Cornell today) 1 Adam Frosllone – Air Breathing Organs in Osteichthyes 2 Amanda Bielecki – Aquaponics and the Symbiotic Cultivation Between Plants and Fish
14:00 MNS 210	Selected Bacterial and Viral Pathogens of Fishes Dr. Lester Khoo
16:00	off

*2022 Schedule for AQUAVET® I and AQUAVET® II***Sunday, 5. June 2022 – OFF**

Morning OPTIONAL Whale Watch
Barnstable, MA

18:00 AQUAVET® Joint Class Picnic
courtyard

Monday, 6. June 2022

8:00 **Selected Bacterial and Viral Pathogens of Fishes**
MNS 203 Micro Lab (lab coats and dissection kits)
Dr. Khoo

10:00 **Water Quality Lab** (half of the class)
MNS 103 Dr. Landeau

10:00 Life Cycles of Aquarium Raised Fish – facilities visit (other half of class)
MNS 210 Dr. Andy Rhyne – Roger Williams University

13:00 **Water Quality Lab** (repeat)
MNS 103 Dr. Landeau

13:00 Life Cycles of Aquarium Raised Fish – facilities visit (repeat)
MNS 210 Dr. Rhyne

15:00 Normal Fish Histology
MNS 210 Dr. Sal Frasca – ZooQuatic, LLC

18:30 **Normal Fish Histology – Microscope Lab**
MNS 103 Dr. Frasca

Tuesday, 7. June 2022

8:00 Pathology and Histopathology of Fish
MNS 210 Dr. Frasca

11:00 **Pathology and Histopathology of Fish – Microscope Lab**
MNS 103 Dr. Frasca

13:00 **Pathology and Histopathology of Fish – Microscope Lab (cont)**
MNS 103 Dr. Frasca

14:30 Student Seminars (Cornell today)

2022 Schedule for AQUAVET® I and AQUAVET® II

MNS 210 3 Emma Fralin –
 4 Laura Abreu Nicolas– Large Whale Stranding
 5 Mark Golay – Reproduction and Culture Methods of Jellies
 6 Linda Nachtigal – Salmon Anemia
 7 Håkon Jones – Parasitic « Pods »

18:30 Introduction to Fish Hematology
 MNS 210/103 Jill Arnold – ZooQuatic, LLC

19:30 **Fish Hematology – Microscope Lab**
 MNS 103 Jill Arnold

Wednesday, 8. June 2022

8:00 Disease Investigations and Case Reports for Coldwater Fishes
 MNS 210 Dr. Lovy – NJ Div of Fish & Wildlife, Office of Fish & Wildlife

9:00 Environmental/Nutritional Disease of Coldwater Fishes
 MNS 210 Dr. Lovy

10:00 Student Seminars
 MNS 210 8 Sydney Johnson – Perinatal Manatee Nursery Modeling Project and
 Manatee Reproduction
 9 Emma Gellman– Risks and Techniques of Pinniped Anesthesia
 10 Desire Hung – Welfare of Fish at the Hong Kong Wet Market
 11 Kristi Kaleel – Conservation of the Hawaiian Monk Seal

13:00 Viral Diseases of Coldwater Fishes
 MNS 210 Dr. Tom Loch – MSU-AAHL, Colleges of Agriculture & Natural
 Resources and Veterinary Medicine

15:00 Parasitic and Fungal Diseases of Coldwater Fishes
 MNS 210 Dr. Lovy

18:30 Regulations in Aquaculture
 MNS 210 Dr. Kathleen Hartmann – USDA APHIS Veterinary Services
 Bill Keleher – USDA APHIS Veterinary Services

Thursday, 9. June 2022

8:00 What is Unique about Eye Structure and Sight: From A (Avian)
 MNS 210 to Z (Zalophus or Zebrafish)
 Dr. Carmen Colitz – Aquatic Animal Eye Care, LLC

11:00 Marine Mammal Anaesthesia
 MNS 210 Dr. James Bailey – National Marine Mammal Foundation

13:00 Diseases of Warmwater Aquaculture Fishes – Infectious Diseases (con't)

2022 Schedule for AQUAVET® I and AQUAVET® II

MNS 210	Dr. Jack
15:00 MNS 210	Diseases of Warmwater Aquaculture Fishes – Non-Infectious Diseases Dr. Jack
18:30 MNS 210	Culture and Health Concerns of Baitfish and Hybrid Striped Bass Dr. Jack

Friday, 10. June 2022

8:00 MNS 210	Amphibians! Dr. Kathy Tuxbury – New England Aquarium
10:00 MNS 210	Aquaculture Systems Dr. Rhyne
8:00 MNS 210	Student Seminars (Cornell today) 12 Rachael Feeney – Manatee Watercraft Injuries 13 Mary-Grace Trogdon – Sea Turtle Rehabilitation 14 Tryssa de Ruyter – 15 Shannon Mathis –
13:00 MNS 210	Corals Dr. Ilze Berzins – One Water, One Health, LLC
18:30 MNS 210	Reptile Medicine Dr. Jessica Lovstad – Roger Williams Park Zoo

Saturday, 11. June 2022

8:00 MNS 210	Shrimp Industry Dr. Bob Bullis – Florida Keys Community College Dr. Arun Dhar – University of AZ, Aquatic Pathology Laboratory
13:00 MNS 210	Student Seminars 16 Samantha Oakey – Edwardsiella 17 Kayla Bonadie – Declining Shark Populations Due to Poor Management 18 David Machado –
14:30 MNS 210	Oyster Culture, Environment, Disease and Nutrition Dr. Maze
17:00	OFF

Sunday, 12. June 2022

2022 Schedule for AQUAVET® I and AQUAVET® II

OPEN

Monday, 13. June 2022

8:00 MNS 210	Drugs used in Aquaculture – Regulations, labels, FDA, CVM and Medicated Feeds Dr. Emily Cornwell – Food and Drug Administration
10:00 MNS 210	Harmful Algal Blooms Dr. Chris Gobler – Stonybrook Southampton
13:00 MNS 210	Medical Aspects of HABs – and Aquatic Toxicology Dr. Lisa Murphy – University of Pennsylvania
14:00 MNS 210	(Sea)food Safety – Emphasis on Toxins Dr. Murphy
15:00 MNS 210	Other Aspects of Aquatic Toxicology and Selected Cases Dr. Murphy
16:00 MNS 210	Seafood Safety – The Risks of Eating Raw Seafood Dr. Maze
18:30 MNS 210	Economic Considerations in the Development of Aquaculture Operations Dr. Landeau

Tuesday, 14. June 2022

8:00 MNS 210	Student Seminars 19 Putri Sulliman – Stress Management in Aquaculture 20 Kathryn Stein –
circa 10:00 12:00	leave RWU for Boston – New England Aquarium estimated arrival time – lunch Faneuil Hall
13:00	New England Aquarium – Behind the Scenes Tours Dr. Tuxbury and staff
15:00	open time to visit NEAQ on own (aquarium closes at 5pm)
17:15	drive back to RWU

Wednesday, 15. June 2022

2022 Schedule for AQUAVET® I and AQUAVET® II

8:00 MNS 210	Biology, Medicine and Surgery of Turtles Including Sea Turtles Dr. Charles Innis – New England Aquarium
13:00 MNS 103	Turtle Necropsy Lab (lab coats, dissection kit) Drs. Innis
16:00 MNS 210	Fish Nutrition Dr. Allen Davis – Auburn University
18:30 MNS 210	Fish Nutrition (continued) Dr. Davis

Thursday, 16. June 2022

Today is overnight trip to Riverhead, NY. Take what you will need with you.

6:00	Leave RWU for Riverhead, Long Island, NY (breakfast on ferry)
7:30	Arrive New London Ferry Terminal they require arrival 30 minutes ahead of departure
8:00 9:20 or so	Ferry to Orient Point, NY arrive Orient Point – drive to Riverhead, NY
10:30	Atlantis Marine World Aquarium and Riverhead Foundation for Marine Research and Preservation
10:30	RFMRP – Clinical Techniques for Marine Mammals and Aquatic Animals – WET LAB – Bring Old Clothes or Clothing Covers Dr. Robert Pisciotta Dr. Richard Hanusch Maggie Seiler Candyce Paparo Maxine Montello
13:00	RFMRP – Clinical Techniques for Marine Mammals and Aquatic Animals – (continued)
18:30	Coral Biology, Husbandry and Propagation Joe Yaiullo – Atlantis Marine World
20:30	Hyatt Hotel – overnight

Friday, 17. June 2022

2022 Schedule for AQUAVET® I and AQUAVET® II

6:30	Hyatt Hotel breakfast
7:30	pack, check out and load cars
7:45	Leave Riverhead for ferry
8:30	arrive at Orient Point, NY
9:00	Ferry leaves for New London, CT
10:20	arrive New London
10:30	arrive at Mystic Aquarium
10:30	Mystic Aquarium Tour Dr. Allison Tuttle et al – Mystic Aquarium and Institute for Exploration
16:15	Leave Mystic for RWU
17:45	arrive on campus

Saturday, 18. June 2022

8:00	Aquatic Birds
MNS 210	Dr. Cindy P. Driscoll – Maryland Department of Natural Resources
11:00	Student Seminars
MNS 210	21 Ivy Sudduth – 22 Selina Nackley –
13:00	Aquatic Birds Anatomy Lab – WEB LAB – (dissection kits, lab coats)
MNS 103	Dr. Driscoll

Sunday, 19. June 2022

OPEN

Monday, 20. June 2022

8:00	Marine Mammals
MNS 210	Dr. Inga Sidor – University of New Hampshire Dr. Paul Calle – Zool. Health Program, Wildlife Conservtn. Society Dr. Cara Field – The Marine Mammal Center Dr. Chelsea Anderson – Mystic Aquarium
8:00	Marine Mammals – Taxonomy, Anatomy, Physiology, Reproduction
MNS 210	Dr. Field
9:45	Marine Mammal Diseases I (Bacterial, Viral)
MNS 210	Dr. Field
11:00	Marine Mammal Diseases II (Fungal, Parasitic, Toxins, Misc.)
MNS 210	Dr. Field

2022 Schedule for AQUAVET® I and AQUAVET® II

13:00 MNS 210	Important Marine Mammal Legislation, Regulatory Agencies, and Member Organizations Dr. Calle
13:45 MNS 210	Marine Mammal Water Quality/Life Support/Environmental Considerations Dr. Field
15:00 MNS 210	Marine Mammals – Clinical Cases Dr. Anderson
16:00 MNS 210	Student Seminars 23 Jill Western – 24 Faythe Goins –
18:30 MNS 210	Large Display Aquaria Dr. Anderson
20:15 MNS 210	Ethics of Keeping Marine Mammals Under Human Care (discussion) Marine Mammal Group

Tuesday, 21. June 2022

8:00 MNS 210	Marine Mammals – Husbandry and Aquarium/Zoo Management Dr. Calle
9:30 MNS 210	Marine Mammal Clinical Techniques Dr. Calle
10:45 MNS 210	Marine Mammal Special Topics from the Marine Mammal Center Dr. Field
13:00 MNS 210	Marine Mammal Research Dr. Field, Calle, Sidor
14:15 MNS 210	Marine Mammal Clinical Cases Dr. Calle
15:45 MNS 210	Marine Mammal Stranding Cases Dr. Sidor
18:30 MNS 210	Marine Mammals – Pathology, Principals of Necropsy, Forensics – “How To” Dr. Sidor

Wednesday, 22. June 2022

2022 Schedule for AQUAVET® I and AQUAVET® II

- 6:00 lv RWU for Woods Hole
- 7:30 Required OSHA training to be in the necropsy lab
Carriage House Misty Niemeyer – Woods Hole Oceanographic Institution
Breakfast during this training
- 8:00 **Marine Mammal Necropsy Lab WET LAB**
WHOI **(need dissection kit – protective clothing will be provided)**
 Consider bring change of clothes for after this lab
 Drs. Sidor, Field, Calle
 Dr. Eric Anderson – Mystic Aquarium
- 12:30 Students Present Results of Necropsies for the Group
Carriage House Dr. Sidor leading discussion
- 13:00 lunch
Carriage House
- 13:30 Stranding & What We Can Learn from Strandings, Including Large Whale
Carriage House Strandings and Mass Strandings
 Dr. Sarah Sharp – Woods Hole Oceanographic Institution (WHOI)
- 16:00 leave MBL by this time or earlier
16:15 arrive at MBL and park
16:30 meet at MRC entrance
- 16:30 **Tour of MBL and MRC Facilities**
 Dr. Lisa Abbo, MBL Veterinarian
- 17:30 approx Group Photo and time to explore town
18:30 Dinner at Captain Kidd
20:30 approx depart for RWU
22:00 approx arrive RWU

Thursday, 23. June 2022

- 8:00 Overview of Pet Fish Medicine Including LSS and Water Quality
MNS 210 Dr. Jessie Sanders – Aquatic Veterinary Services
- 10:00 Pet Fish Medicine – Common Diagnostic Techniques
MNS 210 Dr. Sanders
- 11:00 Aquarium World Diagnostics and Selected Aquarium Cases
MNS 210 Dr. Shane Boylan – South Carolina Aquarium
- 13:00 Treatments for Fish Diseases in Warmwater Pet Fish: Goiter, Gas
MNS 210 Saturation, Trauma, Infectious Diseases, etc.
 Dr. Boylan
- 15:00 Selection of Pet Fish Cases
MNS 210 Dr. Geoffrey Grocock – Transit Animal Hospital

2022 Schedule for AQUAVET® I and AQUAVET® II

16:00 Selection of Pet Fish Cases (continued)
MNS 210 Dr. Sanders

18:30 Fish Anaesthesia and Surgical Techniques
MNS 210 Dr. Groocock

Friday, 24. June 2022

8:00 **Fish Surgery Lab – HALF of CLASS**
MNS 103 no special equipment needed by students
 wear scrubs or tshirt
 Drs. Groocock, Boylan and Sanders

8:00 **RWU Shellfish Facility Visit** (half of the class)
Meet MNS 103 Skyar Bayer – Roger Williams University
 Robbie Hudson – Roger Williams University

10:00 Both halves switch

13:00 Paths to Success in Aquatics
MNS 210 Dr. Johanna Mejia-Fava – Animal Necessity, LLC

14:00 The Ornamental Fish Industry
MNS 210 Dr. Nick Saint-Erne – Certified Aquatic Veterinarian

15:00 Common Koi Problems
MNS 210 Dr. Saint-Erne

18:30 **AQUAVET® I Clambake**

Saturday, 25. June 2022

By 10:00 check out – back to reality