2019 Schedule for AQUAVET® I

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

Sunday, 26. May 2019

12:00–13:30 Registration – Check-In
Bayside Apartments

14:00 Orientation
MNS 200 Directors

15:00 RWU Required Safety Lecture
MNS 200 Caitlin Conley

16:00 Ecology, Natural History, Physiology, Anatomy of Marine Invertebrates
MNS 210 Dr. Robert Maze – Marinetics, Inc.
AQUAVET® Associate Director

18:30 Ecology, Natural History, Physiology, Anatomy of Marine Invertebrates
MNS 210 (continued)
Dr. Maze

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

Monday, 27. May 2019 – Memorial Day

8:00 Rocky Intertidal Invertebrate Collecting LOW TIDE 8:45
leave from MSN 103 (dress appropriately – will be outside and in water)

10:00 Ecology, Natural History, Physiology, Anatomy of Marine Invertebrates
MNS 210 (continued)
Dr. Maze

13:00 Ecology, Natural History, Physiology, Anatomy of Marine Invertebrates
MNS 210 (continued)
Dr. Maze

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, 28. May 2019**

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

10:00  Fish Anatomy – Structure and Function  
MNS 210  Dr. Yanong

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

14:00  Fish Diagnostics and Techniques  WET LAB  
MNS 103  (need dissection kit, lab coats)  
Dr. Yanong  
Dr. Rod Getchell – Cornell University  
AQUAVET® Associate Director

15:00  Fish Anatomy – Structure and Function  WET LAB  
MNS 103  (need dissection kit, lab coats)  
Drs. Yanong and Getchell

18:30  Anatomy, Diseases and Zoonotic Implications of Marine Invertebrates  
MNS 210  Dr. Roxanna Smolowitz – Roger Williams University

**Wednesday, 29. May 2019**

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

10:30  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**

**Thursday, 30. May 2019**

8:00  Water Quality  
MNS 210  Dr. Laurie Landeau – Marinetics, Inc.  
AQUAVET® Associate Director
2019 Schedule for AQUAVET® I

Friday, 31. May 2019

8:00  Using Aquatic Animals in Research and the Role of IACUC
MNS 200  Dr. Neil Lipmann – Memorial Sloan Kettering Cancer Center

10:00  Life Cycles of Aquarium Raised Fish
MNS 210  Dr. Andy Rhyne – Roger Williams University

13:00  Aquatic Immunity
MNS 210  Dr. Erin Bromage – University of Massachusetts Dartmouth

16:00  Tides
MNS 210  Dr. Abt

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

Saturday, 1. June 2019

0:00  Microbiology Lab Set Up (lab coats and dissection kits)
MNS 203  Dr. Lester Khoo – Mississippi State University
      AQUAVET® Director Emeritus

9:00  Microbiology – Specimen Necropsy (lab coats and dissection kits)
MNS 203  Dr. Khoo

13:00  Selected Bacterial and Viral Pathogens of Fishes
MNS 210  Dr. Lester Khoo

15:00  off
2019 Schedule for AQUAVET® I

Sunday, 2. June 2019 – OFF

8:30  leave campus for OPTIONAL Whale Watch – Barnstable, MA
10:00 check in for Whale Watch
11:00 OPTIONAL Whale Watch $40 per person
       Barnstable, MA
18:00  AQUAVET® Joint Class Picnic
       courtyard

Monday, 3. June 2019

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 – U FL Aquatic, Amphibian, and Reptile Pathology
      Program, College of Veterinary Medicine
18:30 Normal Fish Histology – Microscope Lab
      MNS 103 Dr. Frasca

Tuesday, 4. June 2019

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
2019 Schedule for AQUAVET® I

Wednesday, 5. June 2019

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

1 Xanth El-Sayed – Lionfish Invasion in the Caribbean; How It Started and Current Status
2 Amanda Vegter – Life History, Current Status and Conservation Efforts of Carcharodon carcharias
3 Daniel Ruvolo – Slingshot Feeding Mechanism of the Goblin Shark
4 Vince Nicoletta – Captive Marine Mammal Reproduction

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 Reptile Medicine
     MNS 210  Dr. Mike Corcoran – Bulger Veterinary Hospital, North Andover, MA

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

Thursday, 6. June 2019

8:00  Aquatic Birds
     MNS 210  Dr. Cindy P. Driscoll – Maryland Department of Natural Resources

11:00 Diseases of Warmwater Aquaculture Fishes – Infectious Diseases
     MNS 210  Dr. Sherman Jack – Mississippi State University, CVM

13:00 Aquatic Birds Anatomy Lab – WEB LAB – (dissection kits, lab coats)
     MNS 103  Dr. Driscoll
2019 Schedule for AQUAVET® I

15:00  Diseases of Warmwater Aquaculture Fishes – Infectious Diseases (con’t)
MNS 210  Dr. Jack

16:00  Diseases of Warmwater Aquaculture Fishes – Non–Infectious Diseases
MNS 210  Dr. Jack

18:30  Diseases of Warmwater Aquaculture Fishes – Non–Infectious Dz (con’t)
MNS 210  Dr. Jack

19:30  Culture and Health Concerns of Baitfish and Hybrid Striped Bass
MNS 210  Dr. Jack

Friday, 7. June 2019

8:00  Challenging Aquarium Cases
MNS 210  Dr. Donald W. Stremme – Cornell University
    AQUAVET® Director

10:00  Corals
MNS 210  Dr. Ilze Berzins – One Water, One Health, LLC

13:00  Corals (continued)
MNS 210  Dr. Berzins

14:00  Penguins!
MNS 210  Dr. Stremme

15:00  Resource Assessment
MNS 210  Dr. Russell Brown – National Marine Fisheries Service

18:30  Aquaculture Systems
MNS 210  Dr. Rhyne

Saturday, 8. June 2019

8:00  Shrimp Industry
MNS 210  Dr. Bob Bullis – Florida Keys Community College
Dr. Arun Dhar – University of AZ, Aquatic Pathology Laboratory
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2019 Schedule for AQUAVET® I

13:00  Student Seminars
MNS 210 5 Annie Clift – Affects of Climate Change on Olive Ridley Nesting Beaches in the Southern Nicoya Peninsula of Guanacaste, Costa Rica
6 Matt Sullivan – The Life Cycle and Reproductive Strategies of Mussel Species
7 Kristina Kelley – Aquaponics: Implications for Future Growth
8 Michelle Barnett – Toxoplasmosis? Get Otter Here!

15:00  Oyster Culture, Environment, Disease and Nutrition
MNS 210  Dr. Maze

17:00  OFF

Sunday, 9. June 2019
OPEN

Monday, 10. June 2019

8:00  Student Seminars
MNS 210 9 Tommy Burdette – Sea Anemone Reproduction
10 Stephanie Bellinghausen – General Principles and Challenges in Pinniped Anaesthesia
11 Lyndsy Gazda – Amphibians: The Next Big Extinction
12 Nicole Copeland – Case Study of the First CSF Tap Performed on a Live Bottlenose Dolphin

10:00  Drugs used in Aquaculture – Regulations, labels, FDA, CVM and Medicated Feeds
MNS 210  Dr. Emily Cornwell – Muddy Branch Veterinary Center

13:00  Medical Aspects of HABs – and Aquatic Toxicology
MNS 210  Dr. Lisa Murphy – University of Pennsylvania

14:00  (Sea)food Safety – Emphasis on Toxins
MNS 210  Dr. Murphy

15:00  Other Aspects of Aquatic Toxicology and Selected Cases
MNS 210  Dr. Murphy

16:00  Seafood Safety – The Risks of Eating Raw Seafood
MNS 210  Dr. Maze

18:30  Economic Considerations in the Development of Aquaculture Operations
MNS 210  Dr. Landeau
Tuesday, 11. June 2019

8:00  Student Seminars
MNS 210  13 Danielle Scott – The Effects of Macro-plastic Pollution on Marine Animals and What You Can Do to Reduce Your Impact
14 Tara Needham – White Spot Syndrome Virus (WSSV) with Special Reference to the Queensland, Australian 2016/17 Outbreak

circa
10:00  leave RWU for Boston – New England Aquarium
12:00  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  Amphibians!
NE AQ     Dr. Kathy Tuxbury
Dinner during presentation

Circa  drive back to RWU
18:30

Wednesday, 12. June 2019

8:00  Biology, Medicine and Surgery of Turtles Including Sea Turtles
MNS 210  Dr. Charles Innis – New England Aquarium

13:00  Turtle Necropsy Lab (lab coats, dissection kit)
MNS 103  Drs. Innis

16:00  Fish Nutrition
MNS 210  Dr. Dale Leavitt – Roger Williams University

18:30  Fish Nutrition (continued)
MNS 210  Dr. Leavitt
Thursday, 13. June 2019

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  Ferry to Orient Point, NY
9:20 or so  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, 14. June 2019

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, 15. June 2019

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

11:00  Student Seminars
MNS 210  15 Melissa Wyzan – Elasmobranch Anaesthesia
         16 Marley Chou – Acoustic Variation in Orcas

13:00  Student Seminars
MNS 210  17 Alec Colosi – Diving and Foraging Energetics of Sea Otters
         18 Katharine Hausmann – The Succession of Coral Recruitment to Coral Reefs
         19 Grace White – Neoplasia in California Sea Lions
         20 Jessica Sprando – Marine Mammal Zoonoses
         21 Kathryn Ziegner – Sealpox Virus: Implications for Wildlife Management
         22 Alexis DeMong – Resident and Transient Orcas of the Pacific Northwest

Sunday, 16. June 2019

OPEN

Monday, 17. June 2019

8:00  Marine Mammals
MNS 210  Dr. Allison Tuttle et al – Mystic Aquarium
         Dr. Inga Sidor – University of New Hampshire
         Dr. Paul Calle – Zool. Health Program, Wildlife Conservtn. Society
         Dr. Brent Whitaker – Zooquatic Lab
         Dr. Cara Field – The Marine Mammal Center

8:00  Marine Mammals – Taxonomy, Anatomy, Physiology, Reproduction
MNS 210  Dr. Field

9:45  Marine Mammal Diseases I (Bacterial, Viral)
MNS 210  Dr. Tuttle

11:00  Marine Mammal Diseases II (Fungal, Parasitic, Toxins, Misc.)
MNS 210  Dr. Tuttle

13:00  Important Marine Mammal Legislation, Regulatory Agencies, and Member Organizations
MNS 210  Dr. Tuttle
2019 Schedule for AQUAVET® I

13:45  Marine Mammal Water Quality/Life Support/Environmental Considerations
      MNS 210  Dr. Field

15:00  Marine Mammals – Clinical Cases
      MNS 210  Dr. Tuttle

16:00  Student Seminars
      MNS 210
      23 Sungbin Lee – Finless Porpoise: Past, Present and Future
      24 Lindsay Francis – The Giant Pacific Octopus – Captive Husbandry and Welfare

18:30  Large Display Aquaria
      MNS 210  Dr. Whitaker

20:15  Ethics of Keeping Marine Mammals Under Human Care (discussion)
      MNS 210  Dr. Whitaker

Tuesday, 18. June 2019

8:00  Marine Mammals – Husbandry and Aquarium/Zoo Management
      MNS 210  Dr. Calle

9:30  Marine Mammal Clinical Techniques
      MNS 210  Dr. Calle

10:45  Marine Mammal Special Topics from the Marine Mammal Center
       MNS 210  Dr. Field

13:00  Marine Mammal Stranding Cases
       MNS 210  Dr. Whitaker

14:15  Marine Mammal Clinical Cases
       MNS 210  Dr. Calle

15:45  Marine Mammal Stranding Cases
       MNS 210  Dr. Sidor

18:30  Marine Mammals – Pathology, Principals of Necropsy, Forensics – “How To”
       MNS 210  Dr. Sidor
2019 Schedule for AQUAVET® I

Wednesday, 19. June 2019

6:00       Iv 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. Melissa Joblon - New England 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, 20. June 2019

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
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2019 Schedule for AQUAVET® I

13:00 Treatments for Fish Diseases in Warmwater Pet Fish: Goiter, Gas Saturation, Trauma, Infectious Diseases, etc.
MNS 210 Dr. Boylan

15:00 Selection of Pet Fish Cases
MNS 210 Dr. Geoffrey Groocock – Transit Animal Hospital

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

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

Friday, 21. June 2019

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 Dr. Dale Leavitt – Roger Williams University
Robbie Hudson – Roger Williams University

10:00 Both halves switch

13:00 Paths to Success in Aquatics
MNS 210 Dr. Ari Fustukjian – The Florida Aquarium

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, 22. June 2019

By 10:00 check out – back to reality