NRES 250
INTRODUCTION TO FISHERIES, FORESTRY AND WILDLIFE RESOURCES
FALL SEMESTER 2019 SYLLABUS

Lecturers:	Office	Phone	Office Hours
Dr. Justin VanDeHey (JV)	TNR 178	346-2090	10 – 11 Mon. and 11 – 12 Tues.
Dr. Shelli Dubay (SD)	TNR 325	346-4178	11 – 12 Mon. and Fri.
Dr. Rich Hauer (RH)	TNR 323	346-3642	8 – 9 Mon. and Wed.

Overall Objectives: This course will introduce students to management practices used to achieve objectives using the fisheries, forestry and wildlife resources. Specifically, the course is designed to provide students with skills to 1) Identify the prevailing views toward, and conditions of, the North American fisheries, forestry and wildlife resources from pre-European settlement times to the present, 2) Identify key policies/legislation that has guided the management of the resources over time in addition to the reasons for their implementation, 3) Describe and/or apply sampling techniques when estimating fisheries, forestry or wildlife attributes, 4) Define the term sustainability and identify management techniques that lead to sustainability of fisheries, forestry, and wildlife resources, and 5) Evaluate the inter-related nature of managing fisheries, forestry, and wildlife resources identifying synergies and divergences therein.

Forestry Objectives: At the end of the course, students should be able to 1) Describe scientifically and environmentally sound forested stand regeneration techniques, intermediate stand management techniques, and harvesting options for both even-aged and uneven aged stands, as well as mixed and pure stands, and how they can be used to meet a wide ranging host of landowner objectives, including those related to fisheries and wildlife, 2) Identify the different forested regions of North America, and describe the growing conditions of, and predominant species present in, those regions, and 3) Compare and contrast the role, and management, of individual trees in urban forests versus traditional (rural) forests.

Fish and Wildlife Objectives: At the end of the course, students should be able to 1) Describe public attitudes and ethics involved with fish and wildlife management today, 2) Identify techniques used to sample fish and wildlife, 3) Describe the role of recruitment/natality, mortality, and growth in regulating fish and wildlife populations, 4) Describe techniques used to determine the age, sex, and growth rate of fish and wildlife species, 5) Identify techniques used to evaluate, manage, and improve fish and wildlife habitat, 6) Identify the various types of harvest regulations used to manage fish and wildlife populations, 7) Identify causes of fish and wildlife population decline and describe measures used to protect endangered populations.

Attendance: Attendance is your responsibility, and as a professional and responsible student, you are expected to attend class. Missing lectures and labs will most likely lead to poor performance in this class. Please let Dr. Shelli Dubay, the lead instructor of this class and/or your lab instructor know *as soon as possible* regarding an unavoidable absence from class. If you will be absent on the day of an exam because of a university-sponsored trip, you must contact the instructor(s) at least 4 days before the trip to arrange an alternative test time. If you miss an exam because of an emergency (health problem or family crisis), you are responsible for contacting Dr. Dubay or your lab instructor *as soon as feasible* and arranging a make-up exam immediately after your return to class. Make-up exams are not available for exams missed for reasons other than emergencies or university-sponsored trips.

Logistics: **Lectures: 10:00 to10:50 on Tuesday, Thursday, and Friday in TNR 170**
Lectures are delivered by Drs. Hauer, Dubay, and VanDeHey. Initials by the title of each lecture (which appear later in this document) indicate the professor that will be lecturing on that topic. If you have questions about a specific lecture, contact the lecturer who covered that specific material. Labs are taught by a number of instructors as follows:

Labs (times as outlined below, all will meet in TNR 157 unless specified by your lab instructor):
    Section 1: Monday 8:00-9:50, Dr. Diane Lueck (TNR 245; 346-4151; dlueck@uwsp.edu)
    Section 4: Monday 10:00-11:50, Dr. Diane Lueck (TNR 245; 346-4151; dlueck@uwsp.edu)
    Section 6: Monday 13:00-14:50, Dr. Shelli Dubay (TNR 325; 346-4178; sdubay@uwsp.edu)
    Section 8: Monday 15:00-16:50, Dr. Nilesh Timilsina (TNR 327; 346-2446; ntimilsi@uwsp.edu)
    Section 7: Tuesday 13:00-14:50, Dr. Ben Sedinger (TNR 342; 346-2529; ben.sedinger@uwsp.edu)
    Section 9: Tuesday 15:00-16:50, Mr. Logan Sikora (TBD; lsiko340@uwsp.edu)
    Section 2: Wednesday 8:00-9:50, Dr. Marie Perkins (TNR 344; 346-2755; mperkins@uwsp.edu)
    Section 5: Wednesday 12:00-13:50, Mr. TJ Boettcher (TBD; tboet177@uwsp.edu)
    Section 10: Thursday 15:00-16:50, Ms. Hannah Butkiewicz (315 TNR; hbutk301@uwsp.edu)
    Section 3: Friday 8:00-9:50, Dr. Marie Perkins (TNR 344; 346-4151; mperkins@uwsp.edu)

    Note, you are expected to attend only your scheduled lab section. Attending another section is <u>not permissible</u> except for (i.) pre-approved extenuating circumstances or (ii.) health problem or family crisis. Permissions must be granted by your lab instructor and the instructor whose lab you are trying to attend. See the attendance policy above for valid extenuating circumstances.

<u>Canvas:</u>   We will use a Canvas site to provide lecture materials. Use of Canvas in labs will be at the sole discretion of your lab instructor and level of use can vary from lab instructor to lab instructor.

<u>Readings:</u>   Readings will be assigned from the course texts (below) as well as from notes and other materials referenced from time to time in lecture. **Exams can include questions from reading assignments.**

    Willis, D. W, C. G. Scalet and L. D. Flake. 2008. Introduction to wildlife and fisheries: An integrated approach. W. H. Freeman and Company, New York, New York, USA.   **WS&F**

    Young, R. A., and R. L. Giese, editors. 2003. Introduction to forest science. 3rd edition. John Wiley and Sons, New York, New York, USA. **Y&G**

<u>Grading:</u>   The lecture component comprises 60% of your course grade and is based on three non-cumulative and equally weighted lecture exams that each contribute 20% toward your final grade. The remaining 40% of your grade results from the laboratory portion. The laboratory component consists of two lab exams (each contributing 9% toward your course grade), one scientific report (9% of your course grade) two assignments (a combined 7% of your course grade), and lab quizzes (collectively comprising 6% of your course grade).

    Your final grade for the course will be assigned based on the final percentage of total points you earned. Categories are as follows:

A	92.6-100%	B+	86.6-89.5%	C+	76.6-79.5%	D+	66.6-69.5%
A-	89.6-92.5%	B	82.6-86.5%	C	72.6-76.5%	D	59.6-66.5%
		B-	79.6-82.5%	C-	69.6-72.5%	F	0-59.5%

    Instructors reserve the right to adjust final course grade categories (*only* to your benefit) at semester's end. Direct questions regarding your course grade to Dr. Dubay, the coordinator for NRES 250 this semester.

<u>Students with Disabilities:</u> The university has a legal responsibility to provide accommodations and program access as mandated by Section 504 and the Americans with Disabilities Act (ADA). The university's philosophy is to not only provide what is mandated, but also convey its genuine concern for one's total well-being. If accommodations are needed, please contact the lead instructor (Dr. Dubay for this course) as well as the Office of Disability and Assistive Technology, 609 Albertson Hall (715) 346-3365.

LECTURE AND LAB SEQUENCE

WEEK 1: 2-6 September   <u>Reading assignments</u>
    Lec: Course introduction & History of wildlife management (SD)   WS&F 1.3 & 1.5, 1.8, 17.2, 17.3
    Lec: History of Fisheries management (JV)   WS&F 1.4, 1.5
    Lec: Importance of fisheries and wildlife management (SD)
    Labs begin September 9

WEEK 2: 9-13 September
    Lec: History & importance of forest management (RH)   Y&G Ch. 1, pp. 196-202
    Lec: Forest regions of North America (RH)   Y&G Ch. 3
    Lec: Factors influencing forest growth: tree morphology (RH)   Y&G pp. 75-85
    Lab: Tree Identification

WEEK 3: 16-20 September
    Lec: Public attitudes, conservation ethics and values (SD)   WS&F 16.4 -16.6
    Lec: Animal Behavior I (SD)   WS&F Ch. 6, 2.8-2.10
    Lec: Animal Behavior II (SD)
    Lab: Compass and Pacing

WEEK 4: 23-27 September
    Lec: Forest ecology and the forest ecosystems (RH)   Y&G pp. 114-118, 127-130
    Lec: Sampling forest resources (RH)   Y&G pp. 249-260, WS&F 13.5
    Lec: Sampling fish and wildlife (JV)   WS&F Ch. 7, 9.10 & 9.14
    Lab: GPS and Pacing

WEEK 5: 30 Sept-4 October
    Lec: Environmental physiology of tree growth (RH)   Y&G pp. 85-96, 261-262
    Lec: Silviculture techniques to manipulate biomass (RH)   Y&G pp. 285-293
    Lec: **1st LECTURE EXAM**
    Lab: Timber Resource Measurements

WEEK 6: 7-11 October
    Lec: Wildlife and Forest Management I (SD)   Y&G Ch. 14, WS&F 13.7, 14.5, 15.1
    Lec: Wildlife and Forest Management II (SD)
    Lec: Impacts of diseases on forests, fish, and wildlife (SD)   Y&G 148-160, WS&F 10.9, 391-2
    Lab: Timber Cruising

WEEK 7: 14-18 October
    Lec: Dynamics of fish and wildlife populations (JV)   WS&F Ch. 3
    Lec: Determining age, growth, and sex of fish and wildlife (JV)   WS&F Ch. 8
    Lec: Population Genetics in fisheries and wildlife (JV)   WS&F Ch. 4
    Lab: Snags and Debris

WEEK 8: 21-25 October
    Lec: Agricultural practices and wildlife management (SD)   WS&F 2.11, 14.4, 18.9
    Lec: Range management and grazing systems (SD)   Y&G Ch. 15; WS&F 15.1
    Lec: Modeling and statistics in fish and wildlife populations (JV)   WS&F Ch. 9
    Lab: **MIDTERM LAB EXAM**

WEEK 9: 28 October – 1 November
    Lec: Even vs. uneven-aged approaches to forest management (RH)   Y&G pp. 285-293
    Lec: Intermediate forest management practices (RH)   Y&G pp. 293-312
    Lec: Wetland management (ALL)   WS&F 12.2, 14.6, 15.2, 15.6
    Lab: Succession

WEEK 10: 4-8 November
      Lec: Lake and Reservoir management (JV)   WS&F Ch. 15.3
      Lec: Case Study: Crane Management in Wisconsin (SD)
      Lec: **2nd LECTURE EXAM**
      Lab: Scientific Writing

WEEK 11: 11-15 November
      Lec: Uses of marked animals in fisheries and wildlife (JV)   WS&F Ch. 9.10-9.14
      Lec: Rectangular Land Survey (RH)   Y&G Ch. 245-248
      Lec: Jobs in Natural Resources (Sue Kissinger)
      Lab: Fish and Wildlife populations

WEEK 12: 18-22 November
      Lec: Stream trout management (JV)   WS&F Ch. 15.4
      Lec: Manipulating fish and wildlife resources: stocking and removals (JV)   WS&F Ch. 10
      Lec: Manipulating fish and wildlife resources: harvest management (JV)   WS&F Ch. 17, 19
      Lab: Scientific Method

WEEK 13: 25 – 29 November
      Lec: Harvest management in fish and wildlife case studies (JV)
      Lec: No Thursday lecture
      Lec: No Friday lecture
      Lab: No labs

WEEK 14: 2-6 December
      Lec: Urban forestry and urban forest ecosystems (RH)   Y&G Ch. 22
      Lec: Forest protection and managing natural resources (RH)   Y&G Ch. 8
      Lec: Wildlife management in urban settings: benefits and problems (SD)   WS&F 14.3
      Lab: Rectangular Land Survey

WEEK 15: 9-13 December
      Lec: Case study: Lake Whitefish management in Lake Michigan (JV)
      Lec: Management of depleted species (SD)   WS&F Ch. 11
      Lec: Sustainable forestry, ecosystem management, & BMP's (RH)   Y&G pp. 181-193, 307-312
      Lab: **FINAL LAB EXAM**

*FINAL LECTURE EXAM: Wednesday, December 18, 2019 at 12:30 pm