

**NRES 250: INTRODUCTION TO FISHERIES, FORESTRY AND WILDLIFE RESOURCES
SPRING SEMESTER 2020 SYLLABUS**

<u>Lecturers:</u>	<u>Office</u>	<u>Phone</u>	<u>Office Hours</u>
Dr. Justin VanDeHey (JV)	TNR 178	715-346-2090	2 – 3 Mon. and 10 – 11 Thur.
Dr. Shelli Dubay (SD)	TNR 325	715-346-4178	12 – 1 Tues. and Wed.
Dr. Rich Hauer (RH)	TNR 323	715-346-3642	10 – 11 Tues. and Thur.

Overall Objectives: This course will introduce students to management practices used to achieve management objectives for fisheries, forestry and wildlife resources. Specifically, the course provides 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 and 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) Develop economically, socially, and environmentally sound and science-based forestry practices to meet landowner objectives, including those related to fisheries and wildlife; 2) Select appropriate stand regeneration techniques (intermediate stand management, harvesting options for both even-aged and uneven aged stands, as well as mixed and pure stands) and relate how they can be used; 3) Identify the different forested regions of North America, predominant species present in those regions, describe common tree silvics characteristics; 4) Identify laws, policies, and market place approaches used to solve conservation, preservation, and sustainable questions; and 5) Compare and contrast the role, and management, of individual trees in urban forests and 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. Hauer, coordinator 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 3 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. Hauer or your lab instructor *as soon as possible* 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.

Lectures: 11:00–11:50 on Monday, Wednesday, and Friday in TNR 170

Lectures are delivered by Drs. Dubay, Hauer, 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: Meeting times are below and all will meet in TNR 157 unless specified by your lab instructor

Section 1: Monday 8:00-9:50 – Dr. Melinda Vokoun (TNR 376; 715-346-2342; mvokoun@uwsp.edu)
Section 5: Monday 13:00-14:50 – Dr. Marie Perkins (TNR 344; 715-346-2755; mperkins@uwsp.edu)
Section 8: Monday 15:00-16:50 – Dr. Shuva Gautam (TNR 192; 715-346-2144; sgautam@uwsp.edu)
Section 6: Tuesday 13:00-14:50 – Dr. Justin VanDeHey (TNR 178; 715-346-2090; jvandehe@uwsp.edu)
Section 2: Wednesday 8:00–9:50 – Dr. Justin VanDeHey (TNR 178; 715-346-2090; jvandehe@uwsp.edu)
Section 7: Wednesday 13:00-14:50 – Dr. Melinda Vokoun (TNR 376; 715-346-2342; mvokoun@uwsp.edu)
Section 3: Thursday 8:00-9:50 – Dr. Marie Perkins (TNR 344; 715-346-2755; mperkins@uwsp.edu)
Section 4: Thursday 12:00-13:50 – Dr. Shuva Gautam (TNR 192; 346-2144; sgautam@uwsp.edu)

Note, you are expected to attend only your scheduled lab section. Attending another section is not permissible 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's whose lab you are trying to attend. See the attendance policy above for valid extenuating circumstances.

Canvas: This course will use the 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.

Course Canvas site: <https://uwstp.instructure.com/courses/280005>

Readings: 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**

Grading: The lecture component comprises 60% (300 total points) 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% (200 points) 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. Hauer, the coordinator for NRES 250 this semester.

Students with Disabilities: The University has a legal responsibility to provide accommodations and program access as legislated 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. Hauer for this course) as well as the Office of Disability Services, 609 LRC, voice (715) 346-3365 or 4116.

LECTURE AND LAB SEQUENCE

WEEK 1: January 20–24, 2020

Lec: **No Class Monday January 21 – Martin Luther King Jr. Day**
Lec: Course introduction & History of fisheries management (JV)
Lec: Rectangular Land Survey (RH)
Lab: No Scheduled Lab First Week

Reading Assignments

WS&F 1.3 – 1.5, 1.8, 17.2, 17.3
Y&G Ch. 245-248

WEEK 2: January 27–31, 2020

Lec: History, importance, legislation of forest management (RH)
Lec: History of wildlife management (SD)
Lec: Public attitudes, conservation ethics and values (SD)
Lab: Rectangular Land Survey and Map Reading

Y&G Ch. 1, pp. 196-202
WS&F 1.4, 1.5
WS&F 16.4 -16.6

WEEK 3: February 3–7, 2020

Lec: Importance of fisheries and wildlife management (SD)
Lec: Animal Behavior I (SD)
Lec: Animal Behavior II (SD)
Lab: Scientific Writing

WS&F Ch. 6, 2.8-2.10

WEEK 4: February 10–14, 2020

Lec: Sampling fish and wildlife (JV)
Lec: Dynamics of fish and wildlife populations (JV)
Lec: Determining age, growth, and sex of fish and wildlife (JV)
Lab: Fish and Wildlife Population Assessment

WS&F Ch. 7
WS&F Ch. 3
WS&F Ch. 8

WEEK 5: February 17–21, 2020

Lec: Uses of marked animals in fisheries and wildlife science (JV)
Lec: Sampling forest resources (RH)
Lec: 1st LECTURE EXAM
Lab: The Scientific Method - Testing Hypotheses

WS&F Ch. 9.10 – 9.14
Y&G pp. 249-260, WS&F 13.5

WEEK 6: February 24–28, 2020

Lec: Forest regions of North America (RH)
Lec: Factors influencing forest growth: tree morphology (RH)
Lec: Forest ecology and the forest ecosystem (RH)
Lab: Distance and Direction Using Compass and Pacing

Y&G Ch. 3
Y&G pp. 75-85
Y&G pp. 114-118, 127-130

WEEK 7: March 2–6, 2020

Lec: Environmental physiology of tree growth (RH)
Lec: Modeling and statistics in fish and wildlife populations (JV)
Lec: Population Genetics in fisheries and wildlife (JV)
Lab: Comparing GPS to Compass and Pacing

Y&G pp. 85-86, 261
WS&F Ch. 9
WS&F Ch. 4

WEEK 8: March 9–13, 2020

Lec: Silviculture and stand regeneration techniques (RH)
Lec: Even vs. uneven-aged approaches to forest mgmt. (RH)
Lec: Case study – crane research in Wisconsin (SD)
Lab: MIDTERM LAB EXAM

Y&G pp. 285-293
Y&G pp. 285-293

LECTURE AND LAB SEQUENCE (continued)

SPRING BREAK: March 16–20, 2020

WEEK 9: March 23–27, 2020

Lec: Wildlife and Forest Management I (SD)
Lec: Wildlife and Forest Management II (SD)
Lec: Impacts of diseases on forests, fish, and wildlife (SD)
Lab: Tree Identification

Reading Assignments

Y&G Ch. 14, WS&F 13.7, 14.5, 15.1
Y&G 148-160, WS&F 10.9, 391-

WEEK 10: March 30–April 3, 2020

Lec: Jobs in Natural Resources (Sue Kissinger)
Lec: Intermediate forest management practices (RH)
Lec: Attend CNR Undergraduate Research Symposium
Lab: Timber Resource Measurements

Y&G pp. 293-312, Ch. 16

WEEK 11: April 6–10, 2020

Lec: 2nd LECTURE EXAM

Lec: Lake and reservoir habitat management (JV)
Lec: Agricultural practices and wildlife management (SD)
Lab: Timber Cruising (Schmeckle Reserve)

WS&F Ch. 15.3
WS&F 2.11, 14.4, 18.9

WEEK 12: April 13–17, 2020

Lec: Range management and grazing systems (SD)
Lec: Wetland management (ALL)
Lec: Urban forestry and urban forest ecosystems (RH)
Lab: Snags and Woody Debris (Schmeckle Reserve)

Y&G Ch. 15; WS&F 15.1
WS&F 12.2, 14.6, 15.2, 15.6
Y&G Ch. 22

WEEK 13: April 20–24, 2020

Lec: Forest health and managing natural resources (RH)
Lec: Wildlife mgmt. in urban settings: benefits and problems (SD)
Lec: Trout stream management (JV)
Lab: Forest Succession (Schmeckle Reserve)

WS&F, pp. 290-291
WS&F 14.3
WS&F Ch. 15.4

WEEK 14: April 27–May 1, 2020

Lec: Manipulating fish & wildlife resources: stocking & removals (JV)
Lec: Manipulating fish & wild. resources: harvest mgmt. (JV)
Lec: Harvest management Case studies (JV)
Lab: **FINAL LAB EXAM**

WS&F Ch. 10
WS&F Ch. 17, 19

WEEK 15: May 4–8, 2020

Lec: Case study: Lake whitefish in Lake Michigan (JV)
Lec: Sustainable forestry, Ecosystem Management & BMPs (RH)
Lec: Management of depleted species (SD)
Lab: NO LAB

Y&G pp. 181-193, 307-312
WS&F Ch. 11

FINAL LECTURE EXAM: Monday May 11 from 8:00-10:00 AM (*third exam, not cumulative*)