COURSE OUTLINE: NET205 - TEREST ECOSYS SURVEY

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Course Code: Title	NET205: TERRESTRIAL ECOSYSTEM SURVEYS
Program Number: Name	5220: NAT ENVIRONMENT TN
Department:	NATURAL RESOURCES PRG
Academic Year:	2024-2025
Course Description:	This course will provide students with an understanding of the fundamental principles of sampling and survey design. Students will gain experience using a variety of data collection methods in the survey of plant and wildlife communities. Overall, students will demonstrate proficiency in the collection, management, analysis, and interpretation of field data and communication of results.
Total Credits:	4
Hours/Week:	4
Total Hours:	56
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**5220 - NAT ENVIRONMENT TN** VLO 1 Collect data from representative biological and environmental samples using routine test procedures. VLO 2 Utilize natural resources equipment and technology to accurately identify ecosystem components for purposes of conserving and managing natural resources. VLO 3 Apply the basic concepts of science to natural resource conservation and management. VLO 4 Conduct natural environment assessments according to standard field survey methods, including the use of appropriate equipment and materials. VLO 7 Work safely in adherence to occupational health and safety standards. VLO 9 Contribute to the implementation of natural resource conservation and management. VLO 11 Communicate technical information accurately and effectively in oral, written and visual forms. VLO 12 Travel accurately in a timely manner in the outdoors using appropriate navigation aids and motorized transport equipment.
Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems.

	EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Other Course Evaluation & Assessment Requirements:	Academic success is directly linked to attendance. Missing more than 1/3 of the course hours in a semester shall result in a F Grade for this Course Absences during field labs, tests, quizzes, and other assessments will not be excused without documented personal or health reasons. Late assignments will only be accepted within 24 hours past the due date and will be penalized 20% except under extenuating circumstances with appropriate documentation. Changes to the Course Evaluation scheme may be considered during the semester if approved by the majority of the class (majority = approval by 75% of students present at time of vote). The instructor cannot guarantee responses to questions in the 24-hour period prior to assignment deadlines and tests via phone message or email.
Course Outcomes and Learning Objectives:	

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Describe the major components of an experimental (survey) design and demonstrate knowledge of the basic principles of sampling.	1.1 Demonstrate an understanding of the research process. 1.2 Demonstrate knowledge of various data collection methods available for sampling forest stands and wildlife populations (e.g., fixed vs. variable-radius quadrats, direct vs. indirect wildlife counting methods), when their use is most appropriate, and advantages and disadvantages of each. 1.3 Demonstrate knowledge of sampling design options (how sampling units are placed within a population), advantages and disadvantages of each, and understand the importance of representative sampling 1.4 Understand and discuss factors that influence quadrat (sampling unit) size, shape, number (sample size), and arrangement for a given scenario. 1.5 Develop a pilot field study project by a) stating your research question and research hypothesis, b) defining all pertinent variables, c) providing an overview of your topic that justifies your research question and hypothesis, and d) description of your proposed field methods (proposed study area, size of your study area or field site , number of field sites required, tools for sampling, type of sampling, approximate number of samples required).

Course Outcome 2	Learning Objectives for Course Outcome 2
2. Demonstrate appropriate sampling methodology and use of equipment to collect field data and analyze, interpret, and communicate results in a technical report.	2.1 Demonstrate proficiency in basic navigation skills (e.g., compassing, pacing, chaining, navigating to and from locations) 2.2 Demonstrate appropriate knowledge of, and ability to, conduct terrestrial field surveys applying standard protocols and techniques. 2.3 Demonstrate proficiency in data handling and management. 2.4 Demonstrate ability to use data analysis tools available in Microsoft Excel for computing basic descriptive statistics. 2.5 Demonstrate ability to prepare graphs and tables to summarize data.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
3. Review a primary research article from a scholarly journal related to the survey of one or more wildlife species in the context of forest management and/or natural stand-replacing disturbances.	3.1 Demonstrate the ability to interpret a primary research article by a) establishing context for the research (big picture), b) defining the problem that the research proposes to answer, and c) summarizing the main outcomes of the research.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments - other 10%	10%
Field study design development and presentation 12%	12%
Guest speaker assignments 5%	5%
Moose browse survey and technical report 17%	17%
Quizzes (x3, 5% each) 15%	15%
Research article summary presentation 10%	10%
Science communication assignment 8%	8%
Tree Crop Survey 8%	8%
Wildlife monitoring project (field work and spreadsheet summaries) 15%	15%

Date: July 17, 2024

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.