COURSE OUTLINE: NET205 - TEREST ECOSYS SURVEY

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Course Code: Title	NET205: TERRESTRIAL ECOSYSTEM SURVEYS
Program Number: Name	5220: NAT ENVIRONMENT TN 5221: NAT ENVIRONMENT TY
Department:	NATURAL RESOURCES PRG
Semesters/Terms:	22W
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:	60
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. **5221 - NAT ENVIRONMENT TY** VLO 1 Collect, analyze, interpret and report on data from representative biological and environmental samples. VLO 2 Utilize natural resources information technology equipment to assemble, analyze and present identified ecosystem components for purposes of conserving and

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		managing natural resources.
	VLO 3	Apply the basic concepts of science to natural resource conservation and management.
	VLO 4	Plan, design, implement and participate in the maintenance of natural environment assessments.
	VLO 5	Apply eco-site conservation and management principles
	VLO 7	Ensure all work is safely completed in adherence to occupational health and safety standards.
	VLO 10	Communicate technical information accurately and effectively in oral, written, visual and electronic forms.
	VLO 11	Develop and present strategies for ongoing personal and professional development to enhance performance as an environmental technologist.
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.	

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Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 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
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Demonstrate appropriate sampling methodology and use of equipment to collect field data and analyse, 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 and completing various statistical analyses to analyze field data. 2.5 Demonstrate ability to prepare graphs and tables to summarize descriptive data and statistical analysis.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
Review a primary research article from a scholarly journal directed preferably towards the effects of forest harvesting activities and/or natural disturbances (e.g., forest fires, insect infestations or blowdowns) on an Eastern North American wildlife species or group of similar species.	3.1 Demonstrate the ability to interpret a primary research article by a) defining the problem that the research proposes to answer, b) describing the process of data collection and explain how the methods employed are used to answer the problem under study, and c) summarizing conclusions and future research directions suggested by the study.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments (e.g., Readings, Reports)	70%
Tests and Quizzes	30%

Date: September 3, 2021

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

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