# COURSE OUTLINE: NRT205 - WILDLIFE BIOLOGY

Prepared: Greg Cull
Approved: Karen Hudson, Dean, Community Services and Interdisciplinary Studies

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| **Course Code: Title** | NRT205: WILDLIFE BIOLOGY AND MANAGEMENT |
| **Program Number: Name** | 5214: FISH/WILD CONSERVATN |
| **Department:** | NATURAL RESOURCES PRG |
| **Academic Year:** | 2024-2025 |
| **Course Description:** | This course will introduce students to mammal identification, biology, habitat and population ecology concepts, species at risk, and wildlife management principles. Lab components include mammal anatomy, physiology, wildlife parasites and diseases, and wildlife identification using tracks and signs. |
| **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:**<br>**Please refer to program web page for a complete listing of program outcomes where applicable.** | **5214 - FISH/WILD CONSERVATN**<br>VLO 1 Demonstrate clear, concise and industry appropriate written, spoken and visual communication skills<br>VLO 2 Identify, discuss, organize and assess common flora and fauna species found throughout Ontario, including biological characteristics<br>VLO 3 Demonstrate the ability to follow standardized protocols to collect field data on fish and wildlife populations in a variety of weather and site conditions.<br>VLO 4 Demonstrate the correct use of standard laboratory equipment and skills required to carry out experiments and study various organisms.<br>VLO 6 Understand the importance of managing fish and wildlife resources in Ontario and related federal, provincial and municipal legislation.<br>VLO 7 Recognize the contributions and applications of various science disciplines in the understanding of natural environments.<br>VLO 10 Evaluate and apply current technologies and mathematical concepts used to collect, manage and analyze data.<br>VLO 11 Analyze, evaluate and apply subjective and objective safety considerations. |
| **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.<br>EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication.<br>EES 3 Execute mathematical operations accurately.<br>EES 4 Apply a systematic approach to solve problems. |

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| | EES 5 Use a variety of thinking skills to anticipate and solve problems.<br>EES 6 Locate, select, organize, and document information using appropriate technology and information systems.<br>EES 7 Analyze, evaluate, and apply relevant information from a variety of sources.<br>EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others.<br>EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.<br>EES 10 Manage the use of time and other resources to complete projects.<br>EES 11 Take responsibility for ones own actions, decisions, and consequences. |
| **General Education Themes:** | Science and Technology |
| **Course Evaluation:** | Passing Grade: 50%, D<br><br>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.<br><br>Absences during field labs, tests, and other assessments will not be excused without health documentation and approval of instructor. Missed quizzes cannot be made up. Late assignments will only be accepted up to 5 days late at a penalty of 5% per day.<br><br>The instructor cannot guarantee responses to questions in the 24-hour period prior to assignment deadlines and tests via phone message or email. |
| **Books and Required Resources:** | Mammals of the Great Lakes Region by Kurta<br>Publisher: University of Michigan Press Edition: 3<br>ISBN: 9780472053452<br><br>Dissection kit<br><br>Tracking and the Art of Seeing by Rezendes<br>Publisher: Harper Collins Publishers Edition: 2nd<br>ISBN: 9780062735249 |

**Course Outcomes and Learning Objectives:**

| Course Outcome 1 | Learning Objectives for Course Outcome 1 |
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| 1. Identify principle wildlife species in Ontario. | 1.1 Identify and compare the pelts, skulls, and hairs of selected mammals (i.e., fur-bearers, game species, and non-game species) using field guides and dichotomous keys where appropriate.<br>1.2 Identify wildlife tracks and signs a) by completing a photo collection of tracks and signs indicating species and key identification feature and b)by examining and differentiating the scat of wildlife species native to Ontario.<br>1.3 Synthesize the following information on an assigned mammal species (or group of similar species) into a 1-page summary and PowerPoint presentation which will accompany |

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| | an oral presentation a) biological life history and reproductive potential, b) habitat requirements, c) limiting factors on growth, d) behavioural traits, e) current and past management practices. |
| **Course Outcome 2** | **Learning Objectives for Course Outcome 2** |
| 2. Demonstrate knowledge of wildlife anatomy, sex and age determination, and determining the health status of wildlife populations. | 2.1 Dissect, identify, and compare anatomical features among selected mammal species.<br>2.2 Identify and compare the components of the digestive tract and associated organs among selected mammals.<br>2.3 Demonstrate the ability to apply standard practices to correctly sex and age selected game species.<br>2.4 Participate in a white-tailed deer hunter check station.<br>2.5 Describe major parasites/diseases of wildlife with emphasis on causative agent, animal groups affected, mode of transmission, clinical signs, severity, and prevention and control options. |
| **Course Outcome 3** | **Learning Objectives for Course Outcome 3** |
| 3. Demonstrate an understanding of important aspects of population ecology in relation to the management of wildlife populations. | 3.1 Describe how wildlife populations can be spatially organized (distribution and density).<br>3.2 Describe how wildlife populations grow and factors that limit their growth including a) primary parameters that control population growth, b) biotic potential or intrinsic growth rate (r), c) generalized exponential and logistic models of growth, d) concept of carrying capacity (K), d)generalized life history strategies (R- and K-selection), e) limiting factors, f) density-independent and density-dependent limiting factors.<br>3.3 Describe reasons (i.e., purpose and goal) for harvesting wildlife populations, how the harvesting can be accomplished, and why the reasons are appropriate: a) explain the purpose and goals for harvesting (i.e., hunting and trapping) wildlife, e.g., recreation, culture, and as a management tool, b) describe and compare differences between sustainable harvesting and wildlife control, c) describe and compare differences between additive vs. compensatory mortality.<br>3.4 Understand the process for listing species at risk in Ontario and Canada, including screening committees, status definitions, and laws regulating their management.<br>3.5 Explain current opposition to, and advocacy for, harvesting wildlife and discuss the impact of hunting and trapping on wildlife populations.<br>3.6 Participate in guest lectures on current aspects of wildlife management.<br>3.7 Understand the underlying concept of wildlife damage management and describe wildlife damage control techniques. |

**Evaluation Process and Grading System:**

| Evaluation Type | Evaluation Weight |
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| Assignments / Participation | 50% |
| Tests and Quizzes | 50% |

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| **Date:** | July 17, 2024 |
| **Addendum:** | Please refer to the course outline addendum on the Learning Management System for further information. |