# COURSE OUTLINE: ARB706 - ARBORIS SCIENCES II

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Approved: Sherri Smith, Chair, Natural Environment, Business, Design and Culinary

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| **Course Code: Title** | ARB706: UTILITY ARBORIST SCIENCES II |
| **Program Number: Name** | 6561: UTILITY ARBORIST II |
| **Department:** | UTILITY ARBORIST - APPR. |
| **Academic Year:** | 2023-2024 |
| **Course Description:** | Demonstrate a knowledge of how to identify various woody plants, growth factors of woody plants, compartmentalization of woody plants, diseases and disorders of trees that could be harmful to the integrity of the electrical system, evaluate the condition of the anchor points in trees used for fall protection, evaluation of work operations within environmentally sensitive locations. |
| **Total Credits:** | 2 |
| **Hours/Week:** | 15 |
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| **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.** | **6561 - UTILITY ARBORIST II**<br>VLO 2 Utility Arborist - L2 |
| **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 4 Apply a systematic approach to solve problems.<br>EES 5 Use a variety of thinking skills to anticipate and solve problems.<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. |
| **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.

**Course Outcomes and Learning Objectives:**

| Course Outcome 1 | Learning Objectives for Course Outcome 1 |
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| Identify the impact and mode of action of systemic and contact herbicides on wood and herbaceous plants. | 1.1 Determination of best control methods: environmental factors, efficacy, application restrictions, pesticide labels, specificity<br>1.2 Describe application techniques including stem foliar, broadcast foliar, basal bark and cut stump<br>1.3 Describe off target impacts e.g. agriculture crops |
| **Course Outcome 2** | **Learning Objectives for Course Outcome 2** |
| Describe the impact of work operations on environmentally sensitive areas. | 2.1 Discuss the effects of herbicide application, soil erosion, soil compaction, species at risk, slope/aspect, water and ANSI sites<br>2.2 Prepare and present a one-page report that explains these effects |
| **Course Outcome 3** | **Learning Objectives for Course Outcome 3** |
| Identify appropriate pruning methods according to tree health and cycle clearance. | 3.1 Review the characteristics related to pruning techniques used including species cycle clearance, growth characteristics, shape trees for aesthetics, disease prevention, branch collar, branch bark ridge, branch protective zone, shoot invigoration, sucker growth, coppice, epicormic branching, water sprout production and lateral prunes<br>3.2 Explain the protection of branch tissue through proper pruning<br>3.3 Describe the effects of poor pruning techniques on CODIT |
| **Course Outcome 4** | **Learning Objectives for Course Outcome 4** |
| Identify the physical condition and soundness of interim, and final anchor points based on tree size, tree condition and species. | 4.1 Describe attributes of a solid anchor point<br>4.2 Explain the impacts of various loads on tree structure when selecting an interim and final anchor point |
| **Course Outcome 5** | **Learning Objectives for Course Outcome 5** |
| Identify diseases, disorders, wounds, and defects of woody plants. | 5.1 Identify pathogens that cause disease including fungus, bacteria, viruses, leaf diseases, stem diseases, trunk diseases, root diseases and vascular diseases<br>5.2 Differentiate between biotic and abiotic pathogens<br>5.3 Describe the disease cycles of cankers, basidiocarps and galls |

**Evaluation Process and Grading System:**

| Evaluation Type | Evaluation Weight |
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| Attendance and Participation | 25% |
| Final Test | 25% |
| Quizzes and Assignments | 50% |

**Date:** November 9, 2023

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