Butler County Community College
Math, Science, Behavioral Science,
and Physical Education

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COURSE OUTLINE
Fall Wildflower and Weed Identification

Course Description: BI 238. Fall Wildflower and Weed Identification. 2 hours credit. This course will enable the student to recognize and identify by common and scientific name many local species of "wildflowers and weeds" that only bloom during the fall season. The student will accomplish this by sensorial observation of each plant's unique physical appearance, habitat, and range, and using appropriate field guides and dichotomous identification keys. The student will also learn the ecological role various fall wildflowers and weeds play in their local biome and how native and pioneer Americans used these fall wildflowers and weeds as sources of food, medicines, fabrics, building materials, etc.

Course Relevance: The principles learned in this course will allow the student to effectively seek out and find specific wildflowers and weeds in their natural habitats. Once found these wild plants may be simply enjoyed aesthetically or used for food, medicine, or various other purposes. The natural world is quickly eroding due to human impact. By experiencing this portion of our natural environment the student may gain a greater appreciation of the natural beauty and complexity of the "real world" and help to preserve it for future generations to enjoy.

Required Materials:
Haddock. *Wildflower and Grasses of Kansas*. KU Press

Ladd, D. *Tallgrass prairie wildflowers: A field guide*. Helena, MT: Globe Publishing, Inc.

Peterson, R. T. & McKenny, M., *Peterson field guides: wildflowers of northeastern/northcentral North America*. New York, NY: Houghton Mifflin Co.

* - For complete textbook information, refer to http://www.butlercc.bkstr.com

Learning Outcomes:
The intention is for the student to be able to:
1. Recognize, identify, and enjoy certain species of local fall wildflowers and weeds
2. Possibly use some of these wild plants as food, medicine, garden plants, etc.
3. Appreciate the natural beauty of these fall wildflowers and weeds and help preserve their natural environment that we are all dependent on for our physical survival

Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course:

Through the student involvement in this course, he/she will develop his/her ability in the following PACT skill areas:

1. Critical Thinking:
   - Through direct sensorial scrutiny of fall wildflowers and weeds in their natural habitats the student will be able to identify by common and scientific name certain species of wildflowers and weeds that only bloom during the fall season.
2. Writing
   - The student will effectively record all field-related observations of fall wildflowers and weeds, habitats, locations, etc., in a bound field journal.

Secondary skills (developed but not documented):

Aesthetic response

- By using many physical senses the student will identify and enjoy the natural beauty of many species of wildflowers and weeds that only bloom during the fall season.

Field-Related Technology

- The student will understand that many currently used medicines, foods, building materials, and fabrics have their origins in certain locally observed fall wildflowers and weeds.

Major Summative Assessment Task(s):

These learning outcomes and primary Learning PACT skills will be demonstrated by:

1. The student recording all daily field observations in a bound field journal
2. The student taking oral and written identification quizzes
3. Individual discussions with the student and instructor

Course Content:

I. Themes - Key recurring concepts that run throughout this course:
   A. Specific identification of fall wildflowers and weeds by physical appearance
   B. Habitats, soils, and locations where each fall wildflower or weed is found
   C. Ethnobotanical uses of fall wildflowers and weeds
II. Issues - Key issues that will be addressed in this course: areas of conflict that must be understood in order to achieve the intended outcome:
   A. Focusing on each fall wildflower or weed one at a time
   B. Not all academic knowledge is learned in an indoor classroom or lab
III. Concepts – Key concepts that must be understood to address the issues:
   A. Using senses, identification keys, and field guides to identify specific fall wildflowers and weeds
   B. Experiencing fall wildflowers and weeds in natural habitats

IV. Skills - Actions that are essential to achieve the course outcomes:
- A. Mental and sensual observation skills to identify fall wildflowers and weeds
- B. Vocabulary skills to pronounce common and scientific names of fall wildflowers and weeds
- C. Writing and organizational skills to record field observations in a field journal

Learning Units:

I. Describe the ecological role that fall wildflowers and weeds play on planet earth
- A. Describe how fall wildflowers and weeds are autotrophs or primary producers in the first trophic level of food chains or food webs
- B. Write the overall balanced chemical equation for photosynthesis
- C. Describe how fall wildflowers and weeds help recycle nutrients in biogeochemical cycles
- D. Understand the commercial roles played by fall wildflowers and weeds

II. Recognize and identify major physical structures of fall wildflowers and weeds
- A. Recognize and name the major structures and different types of flowers
- B. Recognize and name the major structures and different types of leaves
- C. Recognize and name the major types of stems and roots

III. Compare taxonomic relationships among fall wildflowers and weeds
- A. For each specifically encountered fall wildflower or weed know at least one common name and understand the origin and/or meaning behind these localized names
- B. For each specifically encountered fall wildflower or weed know the species name and understand the origin and/or meaning behind these scientific names
- C. For each specifically encountered fall wildflower or weed know within which taxonomic family it is classified

IV. Explain how knowing the uniqueness of a fall wildflower or weed's flowers and/or leaves help identify a specific fall wildflower or weed
- A. Recognize and name a specific encountered fall wildflower or weed by visually examining the color, shape, structure, position, and/or arrangement of its flower(s)
- B. Recognize and name a specifically encountered fall wildflower or weed by visually and/or tactilely examining the color, shape, structure, position, and/or arrangement of its leaves

V. Explain how knowing the time of year a wildflower or weed's leaves and/or flowers become visible and recognizable can help identify a specific fall wildflower or weed
- A. Apply the time of year a specific encountered wildflower or weed's flowers bloom to help differentiate it from similar species of wild plants

B. Apply the time of year a specific encountered wild plant's leaves begin to grow and develop to help differentiate it from similar species of wild plants

VI. Describe how knowing the unique habitat and/or range of a fall wildflower or weed can help identify that specific wildflower or weed
   A. Apply the typical habitat of a specific encountered fall wildflower or weed to help differentiate it from similar species of fall wildflower or weed
   B. Apply the typical range of a specific encountered fall wildflower or weed to help differentiate it from similar species of fall wildflower or weed

VII. Explain the ethno-botany of fall wildflowers and weeds
   A. Describe the ways that Native Americans and pioneer Americans utilized a specific encountered fall wildflower or weed as a food source
   B. Describe the ways that Native Americans and pioneer Americans utilized a specific encountered fall wildflower or weed for medicinal purposes
   C. Describe the ways that Native Americans and pioneer Americans utilized a specific encountered fall wildflower or weed for other practical uses

VIII. Appreciate alternative ways to enjoy fall wildflowers and weeds
   A. Name a specific unknown fall wildflower or weed by applying a wildflower and weed identification key
   B. Name a specific unknown fall wildflower or weed by using an appropriate wildflower and weed field guide
   C. Photograph encountered fall wildflowers and weeds
   D. Plant fall wildflowers and weeds in gardens and home landscapes

Learning Activities:

Classroom: Learning activities will involve the student in classroom discussion of plant shape and structure, field trips to specific fall wildflower and weed sites, application of dichotomous identification keys, utilizing wildflower and weed field guides, participating in organized wildflower and weed tours, oral quizzes over already identified fall wildflowers and weeds, recording observations in a bound field journal, and various appropriate projects.

Grade Determination:

The student's final grade determination will be based on satisfactory completion of assessment tasks (learning activities), attendance, participation, quizzes, exams, field journal, and projects.