Lesson Plan: Design a Gardening for Pollinators

Course description:
This course is designed to acquaint students with current ethical issues in health care and the environment. Students will analyze issues/dilemmas using ethical decision making models. Students will learn the process involved in advocating for change in the health care setting and the global environment.

MDC Learning Outcomes that are addressed in this course:
This course addresses the following MDC learning outcomes: at support
- #6 Creates strategies that can be used to fulfill personal, civic, and social responsibilities.
- #7 Demonstrate knowledge of ethical thinking and its application to issues in society.
- #10 Describe how natural systems function and recognize the impact of humans on the environment.

Teaching content: A critical issue that threatens world food production, food security, the country’s economy, and environmental health is the struggling of Pollinators. Natural pollinators are honey bees, butterflies, other insects (e.g., moths, wasps, beetles), birds, and bats. This urges the White House to create some action plans to reduce the loss of honey bee colony, increase number of monarch butterfly, and restore or enhance the ecosystem for pollinators. Factors that affect pollinator health are:
- pest (e.g., Varroa mites in bee hives), pathogens (bacterial diseases and viruses).
- poor nutrition (e.g., loss of foliating habitats and increase supplemental diet).
- pesticide exposure
- bee management practice (e.g., long migratory route).
- insufficient genetic diversity.
- the indirect effects of genetically modified crops that are poorly understood and are not commonly accounted for in risk assessment.

References:
1. https://www.whitehouse.gov/blog/2015/05/19/announcing-new-steps-promote-pollinator-health
2. https://www.epa.gov/pollinator-protection/pollinator-health-concerns#factors

Strategies:
- Contact strykymiamidade.gov for students to attend Gardening for Pollinators that is scheduled on Monday, February 13, 2017 from 10:30 AM- 12:00 PM. The presenter will be Adrian Hunsberger, Miami-Dade County Extension Division of the University of Urban Horticulture Agent at the Deering Estate, Visitor Center, with a collaboration between the Deering Estate and Coral Pines Garden Club (http://www.deeringestate.org/gardening-lecture/)
- Announce the event to students.
- Have students submit a reflection journal after attending the presentation and the class discussion.

Learning Objectives: Students will be able to
- discuss the current risk factors that threatens global food sustainability.
- identify common pollinators based on the presentation.
- design a project based on home environment to promote or support gardening for pollinators.
- evaluate and discuss the action plans and outcomes each week after the session for two to four weeks.