RQ03018: LANDSCAPE PLANTS PRODUCTION AND MAINTENANCE

1. General information

- Term: 7
- Credits: **Total credits 2 (Lecture: 1,5 – Practice: 0,5) - Self-study: 6** credits
- Credit hours for teaching and learning activities: 30 teaching hours
  - Lectures: 17 teaching hours (1 sections/week, 3 teaching hours/section, 50 minutes/teaching hour. Total in 6 weeks)
  - Presentation: 5 teaching hours (2 sessions, 2-3 teaching hours/ section, 50 minutes/teaching hour).
  - Practice in project: 8 teaching hours (1 section/week, 6 teaching hours/section, 50 minutes/teaching hour)
- Self-study: 90 teaching hours (50 minutes each)
- Department conducting the course:
  - Department: Horticulture & Landscape
  - Faculty: Agronomy
- Kind of the course:

Foundation □		Fundamental ☒		Option 1 □		Option 2 □	
Compulsory □	Elective □	Compulsory □	Elective □	Compulsory ☒	Elective □	Compulsory □	Elective □

- Prerequisite course(s): RQ2005 Botany

2. Course objectives and expected learning outcomes

**** Course objectives*:**

- Knowledge: the course provides students with knowledge about urban green tree management; building and developing urban green tree nurseries; managing the system of street trees and park trees.

- Skills: the course trains student skill in analytical and problem-solving, and creating and analyzing green tree management projects.

- Attitude: the course gives student attitude of a sense of being ready to update knowledge when there is an opportunity, fostering knowledge and capacity.

**** Course expected learning outcomes***

Notation	**Course expected learning outcomes (CELOs)** After successfully completing this course, students are able to	**Program performance criteria (PPC)**
Knowledge		
CELO 1	Applying environmental science knowledge to fruit and vegetable technology and landscaping.	1.2
CELO 2	Apply knowledge of landscape design to the maintenance of the landscape according to artistic and technical standards.	3.4
Skills		
CELO 3	Transfer of technical advances and new technologies into landscape management.	8.2

Attitude		
CELO 4	Take responsibility to protect the environment.	9.2

3. Course description

PNH03018. **Landscape plants production and maintenance**. (2TC: 1.5 - 0.5 - 6): The course includes contents of the classification of landscape plants; growth and development characteristics and external requirements of some popular landscape crops; propagation methods and techniques for growing some types of landscape crops; planning to maintain landscape plants; Basic techniques for caring and maintaining groups of landscape plants.

4. Teaching and learning & assessment methods

CELOs	CELO1	CELO2	CELO3	CELO4
Teaching and learning				
Lecturing	x	x		
Practice in project	x	x	x	x
Presentation	x	x	x	x
Assessment				
Rubric 1. Practice in project (30%)	x	x	x	x
Rubric 2. Presentation (20%)			x	
Rubric 3. Final exam (50%)	x	x		

5. Student tasks

- Attendance and attitude: students must attend all lectures in class and practice.

- Prepare materials before going class (self-study): students must read or prepare materials related to the lesson in class following guidance of teacher.

- Assignment: All students attending this module must complete an individual essay assignment. Under the guidance of lecturers, students proceed to select essay topics, develop and write essay reports.

- Presentation: All students participating in this module must participate in individual assignment presentations and discussion of related issues.

- Practice in project: All students participating in this module must work on projects in groups. Under the guidance of the lecturer, students proceed to write the outline, deploy and write the project implementation report.

- Final exam: All students taking this course must take the final exam.

6. Text books and references

**** Text Books/Lecture Notes:***

- Lecture on Production and maintenance of landscape plants – 2021.
- Young and Chris (2017). Encyclopedia of landscape design : planning, building, and planting your perfect outdoor space.
- Stanghellini, Cecilia etc. (2019). Greenhouse horticulture: Technology for optimal crop production.
- Waliczek, Tina Marie and Zajicek, Jayne M. (2016). Urban horticulture.

**** Tài liệu tham khảo khác:***

1. Pham Thi Bich Phuong và Chen Zhongyi, 2020. Landscape art of Tuy Ly Vuong palace, Thua Thien Hue, Vietnam. Journal of Science Can Tho University. 56(6C): 271-279.
2. Pham Thi Bich Phuong, 2021. Actual situation of exploiting landscape trees at some locations in Hanoi city. Proceedings of the scientific conference in 2021, Faculty of Agronomy, Vietnam Academy of Agriculture. 44-50.
3. Bernadette M Mach and Daniel A Potter (2018). Quantifying bee assemblages and attractiveness of flowering woody landscape plants for urban pollinator conservation.

7. Course outline

Week	Content	Course expected learning outcomes
1	***Chapter 1:*** **Identification, selection and grouping of landscape crops**	
	A/ **Main contents***: (3 hours)* **1. Theories:** *(2 hours)* 1.1. The concept of landscape plants 1.2. Ways to group ornamental plants **2. Practice:** *(0 hours)*	CELO 1,2,3,4.
	B/ **Self-study contents**: *(9 hours)* *Overview of how to group landscape plants*	
2	***Chapter 2:*** **Growth and development characteristics and external requirements of some popular landscape crops**	
	A/ **Main contents***: (3 hours)* **1. Theories:** *(3 hours)* 2.1. Growth and development characteristics of some landscape crops 2.2. External requirements of landscape plants **2. Practice:** *(0 hours)*	CELO 1,2,3,4.
	B/ **Self-study contents**: *(9 hours)* *Basic knowledge of the external requirements of landscape plants*	
3	***Chapter 3:*** **Propagation methods and techniques for growing some landscape crops**	
	A/ **Main contents***: (4,5 hours)* **1. Theories:** *(2 hours)* 3.1. Popular propagation methods in landscape crop production 3.2. Techniques for growing some popular landscape crops **2. Practice:** *(2.5 hours)* - Project exercise 1: Choose a project topic and write an outline	CELO1, 2,3,4,5.

	***B/* Self-study contents**: *(13,5 hours)* Techniques for growing some popular landscape crops	
4	***Chapter 4:* Planning to maintain landscape plants**	
	A/* Main contents: (7 hours)* **1. Theories:** *(2 hours)* 4.1. Steps in planning 4.2. Norms and regulations in maintaining landscape plants **2. Practice:** *(5 hours)* - Project exercise 2: Surveying the project and proposing the construction plan - Project exercise 3: Construct a landscape item and complete the as-built document.	CELO 1,2,3,4
	***B/* Self-study contents**: *(21 hours)* Planning to implement a project to maintain landscape trees	
5	***Chapter 5:* Basic techniques to care and maintain groups of landscape plants**	
	***A* Main contents:** *(7 hours)* **1. Theories:** *(2 hours* **)** 5.1. Basic care techniques (fertilizing, watering, weeding, pest control ...) 5.2. Techniques to care and maintain the tree group 5.3. Techniques to care for and maintain groups of shrubs and clumps 5.4. Techniques for caring and maintaining groups of hedges, borders, and arrays 5.5. Techniques for caring and maintaining climbing plants 5.6. Techniques to care and maintain groups of plants and ornamental plants 5.7. Techniques for caring and maintaining carpet plants (carpet flowers, carpet grass) **2. Presentation : (** *5 hours)* Group project report 1-5	CELO 1,2,3,4
	***B/* Self-study contents**: *(15 hours)* Some technical procedures to care and maintain specific landscape plants	
7	***Final exam***	CELO 1,2