

**TEACHING DISCIPLINE: Horticultural Constructions (Specialization.Horticulture, IV-th Year of study, VIII-th Semester)**

**Credit value (ECTS): 3**

**Course category: mandatory**

**Course holder: Assoc. Prof. Dr. Bucur Roxana Dana**

**Discipline objectives (course and practical works)** The discipline aims to transmit and acquire theoretical and practical knowledge in the field of construction which presents aspects of construction materials and thus their composition, respectively modulation, system of behavior and operation of constructions over time and typical applications. of viable holdings. The content of the discipline is adapted and satisfies the requirements imposed by the labor market, being agreed by the communities studying the process of arranging productive horticultural constructions on farms, social partners, professional associations and employers in the field of horticulture.

**Contents (syllabus)**

<b>Course (chapters/subchapters)</b>
1. Introductory notions in constructions. Definitions, classifications. The building as a system. Compartmentation of buildings. Components of buildings. Notions regarding the quality of constructions. General notions regarding horticultural constructions.
2. General characteristics of construction materials. Natural stone. Wood used in construction. Metal products. Mortar and concrete. Ceramic materials used in construction. Synthetic polymer materials. Building materials for waterproofing and thermal insulation
3. Construction elements and resistance structures of wood, masonry, metal, concrete and mixed.
4. Resistance elements: foundations, walls, roofs.
5. Finishing works. Flooring. Plastering. Plywood. Stairs. Joinery work. Closure of buildings
6. Horticultural constructions. General principles of conception, design and realization of horticultural units and constructions. Criteria for location and systematization of horticultural constructions. Design of horticultural constructions. Environmental factors and their influence on the solutions adopted in the design of horticultural constructions.
7. Specific elements of technology. Horticultural constructions. Units for storage of agricultural products. Units for processing horticultural production. Constructions for storage, conservation and conditioning of vegetable production. Installations specific to horticultural constructions.

<b>Practical works</b>
1. Location and design of horticultural units within territories. Accidental pollution. Impact pollution
2. Horticultural constructions - shape in plan and section, modulation and typing, technical conditions. Design block diagram
3. Designing the general plan of a unit with horticultural profile. Calculation of technical-economic indices of the general plan. Calculation of the unit's water demand.
4. Designing the plans and cross-sections of some existing horticultural constructions on the territory of the designed agricultural unit.
5. Hygrothermal design of the perimeter elements of the constructions.
6. Identification of the convenient constructive solutions for closing and compartmentation from light materials, of foundation corresponding to the character of the horticultural constructions, on boards made at imposed stairs

7. The technical-economic calculation of some types of classic greenhouses depending on dimensions and cultures.
8. Design of vertical greenhouses with different resistance structures.
9. Design of green roofs in order to improve the environment and protect building structures

### **Bibliography**

1. Alecu I. et al., 2001 - Management of agricultural holdings, Ceres Publishing House, Bucharest.
2. Berar T., Tudor, D., Mihai, D., 2005 - Elements of agricultural and forestry industrial civil constructions, Orizonturi Universitare Publishing House, Timisoara.
3. Bucur Roxana Dana, 2011. Horticultural constructions, „Ion Ionescu de la Brad” Publishing House Ia i
4. Bucur Roxana Dana, 2011. Agro-zootechnical constructions, „Ion Ionescu de la Brad” Publishing House Ia i
5. Pe ti anu C. et al., 1995 - Constructions, Didactic and Pedagogical Publishing House R.A., Bucharest.

### **Evaluation**

<b>Evaluation form</b>	<b>Evaluation Methods</b>	<b>Percentage of the final grade</b>
Course	Exam	60 %
	presence	
Practical works	Tests + cours and practical	40 %

### **Contact**

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