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SEAQ_PS_PrMA_A.06

DISCIPLINE SHEET

1. Data about program

1.1 Academic institution	UNIVERSITY OF ORADEA
1.2 Faculty	FACULTY OF ENVIRONMENTAL PROTECTION
1.3 Department	AGRICULTURE, HORTICULTURE
1.4 Field of study	HORTICULTURE
1.5 Cycle of study	BACHELOR
1.6 Study programme/Qualification	LANDSCAPING / ENGINEER

2. Data about the disciplines

2.1 Name of discipline	ROADS AND EARTHWORKS AND VERTICAL SYSTEMATISATION						
2.2 Course holder	Assoc.Prof. Phd.eng BORZA IOANA MARIA						
2.3 Laboratory holder	Assoc.Prof. Phd.eng. BORZA IOANA MARIA						
2.4 Year of study	II	2.5 Semester	IV	2.6 Type of evaluation	Ex.	2.7 Regime of discipline	I.

(I) Imposed; (O) Optional; (F) Facultative

3. Total estimate time (hours per semester of didactic activities)


3.1 Number of hours per week	4	din care: 3.2 cours	2	3.3 seminar/laboratory/ project	2
3.4 Total hours in the curriculum	56	din care: 3.5 cours	28	3.6 seminar/laboratory/ project	28
Time allotment					hours
Study assisted by manual, course support, bibliography and notes					11
Additional documentation in the library/ on specialised electronic platforms and in the field					11
Preparation of seminars/laboratories/ topics/reports, portfolios and essays					11
Tutorship					11
Examinations					6
Additional documentation in the library/ on specialised electronic platforms and in the field					6
3.7 Total hours of individual study	44				
3.9 Total hours per semester	56				
3.10 Number of credits	4				

4. Preconditions (where applicable)

4.1 curriculum	Descriptive Geometry, Topography and Technical Drawing, Mathematics, Systematization and Urbanism
4.2 competences	The student must have knowledge of the calculation of the scale of a plan, longitudinal and cross-sectional sections,.

5. Prerequisites (where appropriate)

5.1. related to course	Videoprojector, PC.
5.2. related to seminar/laboratory/ project	The learning conditions are: active and interactive, practical-applicative, in a heuristic, problematizing spirit;

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	Laborator with specific material facilities.
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6. Specific competences acquired	
Professional competences	Elaboration of action plans and planning of landscape strapping and green spaces in urban and rural areas Design, establishment and maintenance of green spaces and landscape strapping in urban and rural areas Making environmental projects, design and green, interior and exterior design and floral design works
Cross-sectional competence	Elaboration and observance of a work programme and carrying out its own tasks with professionalism and rigour <ul style="list-style-type: none"> • Application of effective communication techniques in team work-specific activities; taking a role within the team and respecting the principles of division of labour • Objective self-assessment of the need for continuous vocational training in order to constantly adapt and respond to the demands of economic development; the use of information and communication techniques and, at the very least, a language of international circulation.

7. Objectives of discipline (coming from the specific competences acquired)

7.1 General objective	Guidance of future specialists in the field of construction and development of communication routes, with related works of art. Given the scale of the problems dealt with, as well as the multitude of requirements that the discipline aims to satisfy, it is sought to present them in a manner as accessible as possible, respecting the standards and regulations in force.
7.2 Specific objectives	Knowledge of the main theoretical and practical aspects of the technologies that can be applied in order to achieve in economic conditions landscaping assemblies, according to local conditions, with specific materials, in which access routes and works of art meet the required requirements

8. Conținuturi*

8.1 Course	Teaching methods	No. of hours/Remarks
1. The evolution over time of the communication pathways, the road techniques. The role and importance of road transport, classifications, technical, economic, social, ecological indicators, used in road technology.	Systematic exposure with video projector, heuristic conversation	2
2. Roads, definitions and classifications. Vehicle movement theory, road vehicle interaction. Setting routes	Systematic exposure with video projector, heuristic conversation	2
3. Ways of communication in the landscape. Content of road execution projects. Quality assurance of road systems	Systematic exposure with video projector, heuristic conversation	2
4. Constructive techniques of a road, alley, path in a park, garden, courtyard. Overview data for paths.	Systematic exposure with video projector, heuristic conversation	2
5-6. Horizontal design and geometric road structures.	Systematic exposure	2



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Sizes of geometric elements of roads.	with video projector, heuristic conversation	
7-8. Design in the longitudinal profile. Serpentine. Ensuring visibility.	Systematic exposure with video projector, heuristic conversation	2
9. Earthworks. Execution of embankments. Preparatory work. Cross-sectional profile of embankments	Systematic exposure with video projector, heuristic conversation	2
10. Strengthening by sowing with grass or planting with shrubs, twigs, braided panels; Protecting the embankments with fences (cleions), geotextiles, gabions, wire nets, etc..	Systematic exposure with video projector, heuristic conversation	2
11. Deformations the embankments and their causes. tasings, surprises, erosions, slips	Systematic exposure with video projector, heuristic conversation	2
12. Vertical systematization. Studies on the location of communication pathways. Vertical land systematization aspects in landscape landscaping	Systematic exposure with video projector, heuristic conversation	2
13. Representation of vertical systematization. Changes in microrelief. Enrollment of alleys in vertical land systematization	Systematic exposure with video projector, heuristic conversation	2
14. Elements of the design of the movement scheme in parks and gardens. Types, connections and intersections of alleys	Systematic exposure with video projector, heuristic conversation	2
Bibliography		
<ol style="list-style-type: none"> Boles M, 1990 - <i>Sistemele spațiului amenajat</i>. Ed. Științifică și enciclopedică, București Ciornei A., Răileanu P., 2000 - <i>Cum dominăm pământurile macroporice sensibile la umezire</i>, Editura Junimea, Iași Chira C., 2005 – <i>Întreținerea drumurilor</i>. Ed. Mediamira, Cluj-Napoca Lucaci Ghe., 2001 – <i>Defecțiunile îmbrăcăminților rutiere moderne</i>. Ed. Solness, Timișoara Lucaci Ghe., și col., 2000 - <i>Construcția Drumurilor</i>. Ed. Tehnică București Tănăsescu I., 2006 - <i>Peisagistica. Drumuri și terasamente</i>. Ed. Risoprint, Cluj-Napoca Tobolcea C. (2008), <i>Influența exfiltrațiilor din construcțiile hidro-edilitare asupra terenului de fundare</i>, Teză de doctorat, Universitatea Tehnică „Gheorghe Asachi”, Iași. Troacă E., 1980 - <i>Tehnica sistematizării verticale</i>. Ed. Tehnică București Timofte A.I., 2014 - <i>Drumuri și terasamente</i>. Note de curs Velicu C., Gavrilaş I., Vereș A., Ștefănescu D., 1997 - <i>Elemente de sistematizare și urbanism</i>, Editura Experților Tehnici, Iași 		
http://www.naue.us/our-dna-is-green-naue-greenline-bio-degradable-solutions/ http://cnadnr.ro/sites/default/files/Reglementari-tehnice/PD%20165%202012.pdf http://cnadnr.ro/sites/default/files/Reglementari-tehnice/AND%20600%202010.pdf		
11. http://www.cnadnr.ro/sites/default/files/Reglementari-tehnice/ORDIN%201296%20proiectarea,%20construirea%20si%20modernizarea%20drumurilor.pdf		
8.2 Seminary	Teaching methods	No. of hours/Remarks
8.3 Laboratory	Teaching methods	No. of hours/Remarks
1.Making up the road. Road nomenclature. Preparation of projects. Study of routes	During the first hour of the laboratory will be presented by the teacher coordinator of the	2



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	laboratory works, the notions related to the protection of the work specific to the discipline. Lecture interactive	
2-3. Elements of the road in horizontal, transverse and longitudinal plane	Systematic exposure, demonstration, problematization	4
4-5. Designing a section of road, alley, path, etc..	Systematic exposure, demonstration, problematization	4
6. Road infrastructure. The ground	Systematic exposure, demonstration, problematization	2
7-8. Earthworks. Calculation of moved volumes	Systematic exposure, demonstration, problematization	4
9. Stability of the soles. Machinery and technologies for the execution of earthworks	Systematic exposure, demonstration, problematization	4
10-11. Schemes of routes of movement in parks and gardens	Systematic exposure, demonstration, problematization	2
12-13. Road layers used to make up non-rigid road systems. Technologies used	Systematic exposure, demonstration, problematization	4
14. Recuperări	-	2
8.4 Project		

Bibliography

- Boles M, 1990 - *Sistemele spațiului amenajat*. Ed. Științifică și enciclopedică, București
- Ciornei A., Răileanu P., 2000 - *Cum dominăm pământurile macroporice sensibile la umezire*, Editura Junimea, Iași
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<http://cnadnr.ro/sites/default/files/Reglementari-tehnice/PD%20165%202012.pdf>


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* The content will be detailed, i.e. the number of hours allocated to each course/seminar/laboratory/project during the 14 weeks of each semester of the academic year.

9. Corroboration of discipline content with the expectations of the epistemic community, professional associations and representative employers from the field corresponding to the study programme

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The content of the discipline is adapted and satisfies the requirements imposed by the labour market, being agreed by epistemic communities (which study the process of territorial arrangement of a space as it should be carried out in the sciences), social partners, professional associations and employers in the field of Horticulture license. The content of the discipline is found in the curriculum of the specialization of Landscape and other university centers in Romania that have accredited this specialization, so knowledge of the basics is a pressing requirement of employers in the field of Agriculture-Horticulture-Landscape.

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the final grade
10.4 Course	Examination	General evaluation criteria (completeness and correctness of knowledge, logical coherence, fluency of expression, force of argument). Discipline-specific criteria Criteria for attitudinal and motivational aspects of student activity	70%
10.5 Seminar			
10.6 Laboratory	Report	In the last laboratory session the students will present the laboratory work carried out.	30%
10.7 Project			
10.8 Minimum standard of performance			
Knowledge of the basic concepts of the <i>Roads and Earthworks discipline and vertical systematization</i> and explanation of the interdependencies between them; Communication of basic information specific to the discipline using the correct scientific, specialized language conveyed within this scientific field; Application of purchases in providing examples of the use of aerial image processing methods, on the use of specialized software; Use of own purchases of the discipline taught in addressing specific issues; Skills, knowledge and reasoning skills regarding the use of databases; Browse the bibliography.			


Date of completion
01.10.2021

Signature of course holder
Assoc.Prof.PhD.eng. Borza Ioana Maria

Signature of laboratory holder
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Date of approval in the department

Signature of the Head of Department

Prof. Phd.eng. **Gheorghe BANDICI**

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Dean Signature***

Prof. Phd.eng. **Ioan CHEREJI**

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** - It will be specified : Name, First Name, Teaching degree and contact details (e-mail, web page, etc.).

***- Specify : Name, First Name, Teaching Degree and Contact Data (e-mail, web page,etc.) of the academic entity benefiting from the Discipline Sheet