Facultatea de Agricultură
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No._____/_____ USAMV Form 0101020101

SUBJECT OUTLINE

1. Information on the programme

1.1. Higher education institution	University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca
1.2. Faculty	Agriculture
1.3. Department	I – Technical and Soil Sciences
1.4. Field of study	Agronomy
1.5. Cycle of study[1)]	Bachelor of Science
1.6. Specialization/Study programme	Agriculture
1.7. Form of education	Full time

2. Information on the discipline

2.1. Discipline name	Pedology 2							
2.2. Course coordinator				Prof.dr. Laura Paulette				
2.3. Seminar/laboratory/project coordinator				Lecturer dr. Buta Mihai				
2.4. Year of study	II	2.5. Semester	I	2.6. Evaluation type	Summative	2.7. Discipline status	Content[2]	DD
							Compulsoriness[3]	DI

3. Total estimated time (teaching hours per semester)

3.1. Hours per week – full time programme	4	out of which: 3.2. course	2	3.3. seminar/ laboratory/ project	2
3.4. Total numbers of hours in the curriculum	56	out of which: 3.5. course	28	3.6. seminar/laboratory	28
Distribution of time alloted					hrs.
3.4.1. Study based on books, textbooks, bibliography and notes					12
3.4.2. Additional documentation in the library, electronic platforms and field experiences					10
3.4.3. Preparing seminars / laboratories / projects, reports, portfolios and essays					10
3.4.4. Tutorial					2
3.4.5. Examinations					10
3.4.6. Other activities					
3.7. Total hours of individual study	44				
3.8. Total hours per semester	100				
3.9. Number of credits [4]	4				

4. Prerequisites (if applicable)

4.1. curriculum related	Ecology, Botanics, Agrometeorology
4.2. skills related	Knodleges regarding the components and functions of edaphic system

5. Conditions (if applicable)

5.1. for the course	Teaching is interactive, illustrated with photos and drawings in Power Point. It aims a direct response of the information presented (question and answer) by both, teacher and students. Academic discipline enforce the start time and end of the course. It is not allowing any other activities during the lecture, mobile phones are closed.
5.2. for the seminar/laboratory/project	Practical works in the laboratory are physical and chemical analysis of soil and on the field soil profile morphology is analyzed. Under the direct supervision of practical framework, each student will conduct an individual work with laboratory materials provided and described in the guide for practical work. Academic discipline is impose throughout the duration of practical works.

Professional competences	To know the principles, criteria and international soil classification systems To know the natural soil formation in Romania To know soil classification by the Romanian system SRTS 2012 To know classification and characterization of soils on upper taxonomic units Getting to know the survey and evaluation of soils in Romania To evaluate the productive capacity of agricultural land
Transversal competences	To demonstrate practical skills in identifying the productive capacity of soils / land To be able to asses morphological properties and pedogenetic horizons on soil profile. To be able to manage field activities and observations. To develop resource management strategies of edaphic system (best management practices). To be able to provide advice on identification, evaluation and usage of the soil resources. To participate in research activities.

7. Disciplines objectives (based on the cumulated specific competences)**bjectives of the course** (as a result of the specific competences acquired)

7.1. General objectives	Acquiring knowledge regarding taxonomic classification and description of soils in Romania
7.2. Specific objectives	Field identification and morphological description of soil genetic types Preparation of soil research records in the field Evaluation of the productive capacity of the soils Categorization of use and fertility of agricultural land

8. Content

8.1. COURSE **Number of hours – 28**	Teaching methods	Observations
Soil Classification. Developments in world classifications (international principles and classification systems, genetic classifications and utilities). Soil classification in Romania.	Lecture	1 lecture
The natural formation of soils in Romania (delimitation, characterization and correlation with pedogenetic cover).	Lecture	1 lecture
Protisolurilor class. Lithosol. Regosol. Psamosol. Aluviosol. Keys determination of Protisoluri class, soil types and subtypes.	Lecture	1 lecture
Cernisoluri class. Kastanozem. Chernozem. Phaeoziom. Rendzina. Keys determination of Cernisoluri class, soil types and subtypes.	Lecture	1 lecture
Umbrisols and Cambisols class. Nigrosol. Humosiosol. Eutricambosol. Districambosol. Keys determination of Umbrisols and Cambisols class, soil types and subtypes.	Lecture	1 lecture
Luvisols class. Preluvosol. Luvosol. Planosol. Alosol. Keys determination of Luvisols class, soil types and subtypes.	Lecture	1 lecture
Spodosols class. Prepodzol. Podzol. Keys determination of Spodisols class, soil types and subtypes	Lecture	1 lecture
Vertisols and Andisols class. Pelosol. Vertosol. Andosol. Keys determination of Vertisols and Andisols class, soil types and subtypes.	Lecture	1 lecture
Hidrisols class. Stagnosol. Gleiosol. Limnosol. Keys determination of Hidrisols class, soil types and subtypes	Lecture	1 lecture
Salsodisols class. Solonceak. Solonetz. Keys determination of Salsodisols class, soil types and subtypes.	Lecture	1 lecture
Histisols class. Histosol. Keys determination of Histisols class, soil types and subtypes.	Lecture	1 lecture
Anthrisols class. Anthrosol. Technosol. Keys determination of Anthrisols class, soil types and subtypes.	Lecture	1 lecture
Agricultural lands survey and evaluation.	Lecture	2 lectures

8.2. PRACTICAL WORK **Number of hours – 28**		
Determination of soil carbonates (Sheibler method)	analyses	1 work

method)		
The sum of base cation exchange (SB) (Kappen method)	analyses	1 work
Determination of soil humus (Tiurin method)	analyses	1 work
Determination of soluble salts (determination of anions in aqueous extract)	analyses	1 work
Testing of theoretical knowledge/interpretation of analytical data	Test	1 work
Pedon description: Preluvosoil (Orchard Veterinary Medicine). Fulfill the data sheet.	Data sheets	1 work
Pedon description: rendzina (Faget). Fulfill the data sheet.	Data sheets	1 work
Pedon description: Luvosoil (Faget). Fulfill the data sheet.	Data sheets	1 work
Pedon description: Chernozem (Polocsay Research Center). Fulfill the data sheet.	Data sheets	1 work
Pedon description: Eutricambosol (Zorilor). Fulfill the data sheet.	Data sheets	1 work
Evaluation of agricultural land - Preluvosoil	Data sheets	1 work
Testing of theoretical knowledge and practical description of micromonolith	test	1 work

Compulsory Bibliography:

1. LAURA PAULETTE, 2008 – *Pedologie*, Editura Todesco, Cluj Napoca.
2. LAURA PAULETTE, M. BUTA, 2014 – *Pedologie. Analiza solului*. Ed. Risoprint, Cluj Napoca.
3. LAURA PAULETTE, 2007 – *Pedologie - Studiul solului în teren şi laborator*, Ed. Todesco, Cluj-Napoca.
4. BLAGA GH., FILIPOV F., LAURA PAULETTE, RUSU I., UDRESCU S., VASILE D., 2008 – *Pedologie*. Editura Mega Cluj Napoca.
5. FLOREA N., I. MUNTEANU, 2012 - Sistemul Român de Taxonomie a Solurilor (SRTS). Editura Sitech, Craiova
6. ICPA, 1986 - *Metodologia de elaborare a studiilor pedologice*. Bucureşti.

Optional bibliography:

1. Lupaşcu Gh., M. Parichi, N. Florea, 1998 – *Dicţionar de Ştiinţa şi Ecologia solului*. Editura Universităţii Al. Ioan Cuza, Iaşi.
2. SECU CRISTIAN, C.V. PATRICHE, 2007 – Solurile lumii. Clasificare, răspândire, caracteristici Editura Terra Nostra, Iaşi.
3. *** European Comission, 2005 – Soil Atlas of Europe. European Soil Bureau Network, Office for oficial Publications of the European Communities, Luxemburg.

9. Corroborating the discipline content with the expectations of the epistemic community representatives, of the professional associations and of the relevant employers in the corresponding field

The content of the discipline is similar to that of the disciplines within the faculties with agricultural profile of the universities of the country and is supplemented annually based on new information published in the field and the debates with farmers, practitioners and specialists of the National Soil Science Society..

10. Evaluation

Type of activity	10.1. Evaluation criteria	10.2. Evaluation type	10.3. Percent of the final grade
10.4. Course	Answer to topic extracted Activity in discipline	Oral exam	80%
10.5. Seminar/Laboratory	Results at testing sessions Activity in discipline at practical work	periodic evaluation / colloquy	20%

10.6. Minimum performance standard

Knowledge of scientific information transmitted through lectures and practical work at an acceptable level. Getting the minimum mark (at 5) in laboratory assessments is a graduation requirement for exam.

[1] Level of study – to be chosen one of the following – Bachelor/Master

[2] Course regime (content) - for Bachelor level it will be chosen one of the following - **FdS** (fundamental subject), **BS** (basic subject), **SS** (specific subject), **CS** (complementary subject).

[3] Course regime (compulsory level) - to be chosen one of the following – **CsS** (compulsory subject); **OS** (optional subject) **FS** (facultative subject).

[4] One credit is equivalent with 25-30 hours of study (didactic and individual study).

Filled in on 04.09.2019

Course coordinator
Prof. PhD Laura Paulette

Laboratory work/seminars Coordinator
Lecturer PhD Mihai Buta

Approved by the department on 05.09.2019

Head of Department
Assoc. prof. PhD. Ovidiu Ranta