



No. \_\_\_\_\_ of \_\_\_\_\_

USAMV–CN- form-0109010101

**SUBJECT OUTLINE****1. Information on the programme**

1.1. Higher education institution	University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca
1.2. Faculty	Agriculture
1.3. Department	II Plant culture
1.4. Field of study	Agronomy
1.5. Cycle of study <sup>1</sup>	Master
1.6. Specialization/ Study programme	Management of natural and agrotouristic resources
1.7. Form of education	Full time

**2. Information on the discipline**

2.1. Discipline name	Agricultural crops specific to the mountain area							
2.2. Course coordinator	Prof. Dan VÂRBAN Phd.							
2.3. Seminar/ laboratory/ project coordinator	Lecturer Cristina MOLDOVAN Phd.							
2.4. Year of study	I	2.5. Semester	I	2.6. Evaluation type	summative	2.7. Discipline status	Continut <sup>2</sup>	DC
							Compulsoriness <sup>3</sup>	DI

**3. Total estimated time (teaching hours per semester)**

3.1. Hours per week – full time programme	2	of which: 3.2 course	1	3.3. seminar/ laboratory/ project	1
3.4. Total number of hours in the curriculum	28	of which: 3.5 course	14	3.6. seminar/laboratory	14
Distribution of the time allotted					hours
3.4.1. Study based on books, textbooks, bibliography and notes					60
3.4.2. Additional documentation in the library, electronic platforms and field experiences					40
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					30
3.4.4. Tutorials					7
3.4.5. Examinations					10
3.4.6. Other activities					
3.7. Total hours of individual study	147				
3.8. Total hours per semester	175				
3.9. Number of credits <sup>4</sup>	7				

**4. Prerequisites (if applicable)**

4.1. curriculum-related	Botany, Physiology, Phytopathology, Entomology, Pedology, Organic Chemistry
4.2. skills-related	Studentul trebuie să fie diplomat sau autorizat, să cunoască nutriția plantelor, proprietățile fizico-chimice ale solurilor, biologia și morfologia plantelor și buruienilor, bolilor și dăunătorilor plantelor, pragurilor de daune economice, produselor de combatere a dăunătorilor, regimului de irigare

**5. Conditions (if applicable)**

5.1. for the course	The course is interactive, students can ask questions about the content of the exhibition. The university discipline requires the observance of the start and end time of the course. Preparation, through individual study, of the course. No other activities are tolerated during the lecture, mobile phones should be closed. <b>Note: In the case of online teaching, the teaching methods are adapted to the online conditions and platforms used.</b>
5.2. for the seminar/ laboratory/ project	In the laboratory works it is compulsory to consult the practical guide, each student will carry out an individual activity with the laboratory materials made available



	and described in the practical works guide. The academic discipline is required throughout the duration of the works. Preparation, through individual study, of practical works. <b>Note: In the case of online teaching, the teaching methods are adapted to the online conditions and platforms used.</b>
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## 6. Cumulated specific competences

Professional competences	To know the specific agronomic language for plant culture To know the areas of favorability of plants Understand the mechanisms of nutrition and control of diseases and pests To recognize the main cultivated species, weed species, pests and diseases. To acquire the means of quantitative and qualitative increase of production To know the growth and development phenomena of plants grown in the mountain area To master the mechanisms and adjustments to agricultural machinery used for maintenance and harvesting To thoroughly master the cultivation technologies specific to the plants grown in the mountain area
Transversal competences	To demonstrate the ability to develop a cultivation technology for plants grown in the field Be able to develop projects to ensure the need for fertilizers and pesticides knowing the percentage of active substance. To be able to think of practical activities regarding the adaptation of certain elements of technology for specific conditions. To show concern about professional development To participate in research activities in the field of experience of the discipline.

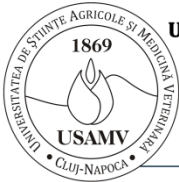
## 7. The objectives of the discipline (based on the grid of specific skills acquired)

7.1. General objective	To acquire knowledge about biology, plant relationships with vegetation factors and cultivation technologies.
7.2. Specific objectives	To customize the knowledge of plant growth and development, the relationships with the vegetation factors and the elements of the cultivation technology for each particular crop plant To be able to elaborate a technology of cultivation of the plants of culture adapted to the pedoclimatic and economic conditions of the mountain area.

## 8. Content

8.1. COURSE Number of hours – 14	Teaching methods	Observations
<b>The objectives and principles of organic farming. The advantages and disadvantages of this system of agriculture</b>	Lecture	1 lecture= 2 hours
<b>Organic fertilizers and plant protection features in the Organic Agriculture system</b>	Lecture	1 lecture= 2 hours
<b>Cereals grown in the mountain area: spring wheat, spelt wheat, triticale, rye, oats and spring barley, millet and buckwheat.</b>	Lecture	1 lecture= 2 hours
<b>Oleoproteinous plants: peas and the spring rape</b>	Lecture	1 lecture= 2 hours
<b>Tuberculiferous plants: the potato for consumption</b>	Lecture	1 lecture= 2 hours
<b>Medicinal and aromatic plants: plantain, garden valerian, garden angelica, mint, perforate St John's-wort</b>	Lecture	2 lecture= 4 hours

8.2. LABORATORY WORK Number of hours – 14	Teaching methods	Observations
<b>Cereals grown in the mountain area</b>	Lecture	2 lecture= 4 hours



<b>- determining the productivity elements of the species and varieties suitable for mountain agriculture</b> <b>- the recognition of the species and varieties suitable for the mountain area</b>		
<b>Identification of the cultural value of pea seeds and spring rape, recognition of varieties suitable for the mountain area</b>	Lecture	1 lecture= 2 hours
<b>Preparation of seed potato for planting by sorting and calibration on fractions</b> <b>- Seeding and pre-sprouting of tubers for early production</b> <b>- Identification of the most suitable varieties for the requirements in the mountain area</b> <b>- The conditions of storage of seed potatoes in order to avoid physiological degeneration</b>	Lecture	2 lecture= 4 hours
<b>Identification of medicinal plants suitable for cultivation in the mountain area and of the components with active principles in order to use them.</b>	Lecture	2 lecture= 4 hours

*Bibliography Required:*

1. MUNTEAN LEON S., MIRCEA TĂMAȘ, SORIN MUNTEAN, LEON MUNTEAN, MARCEL M. DUDA, DAN I. VÂRBAN, SIMION FLORIAN, 2016, *Tratat de plante medicinale cultivate și spontane*, Ed. Risoprint Cluj-Napoca, Ediția II, ISBN 978-973-53-1873-4, 1078 p.,
2. MORAR G., 1999, *Cultura cartofului*, Ed. Risoprint, Cluj-Napoca
3. MUNTEAN LEON S., S. CERNEA, G. MORAR, M. M. DUDA, DAN I. VÂRBAN, S. MUNTEAN, 2014, *FITOTEHNIE*, Ed. Risoprint, ISBN 978-973-53-0506-2, 718 p
4. MUNTEAN, LEON S., MIRCEA TĂMAȘ, DAN I. VÂRBAN, SORIN MUNTEAN, LEON MUNTEAN, AVRAM FIȚIU, RODICA VÂRBAN, 2003. *Tehnologii în agricultura ecologică – Plante medicinale și aromatice*. Ed. Risoprint, Cluj-Napoca, 2003, ISBN 973-656-519-X.
5. RODICA VÂRBAN VÂRBAN D.I., 2017, *Plante medicinale cultivate și din flora spontană*, Ed. Bioflux, Cluj-Napoca
6. VÂRBAN DAN Courses notes

*Optional bibliography:*

1. VÂRBAN, DAN I. 2014, *TEHNOLOGII ECOLOGICE ÎN CULTURA PLANTELOR*, Ed. AcademicPres, ISBN 978-973-744-115-7, 313 p
2. MUNTEAN, LEON S., MIRCEA TĂMAȘ, DAN I. VÂRBAN, SORIN MUNTEAN, LEON MUNTEAN, AVRAM FIȚIU, RODICA VÂRBAN, 2003. *Tehnologii în agricultura ecologică – Plante medicinale și aromatice*. Ed. Risoprint, Cluj-Napoca, 2003, ISBN 973-656-519-X.
3. MORAR G., FIȚIU A., CERNEA S., VÂTCĂ S. D., OLTEAN M.I., SIRBU CAMELIA M., 2003, *Tehnologii în agricultura ecologică- Cartof, sfeclă pentru zahăr*, Ed. Risoprint, Cluj-Napoca
4. \*\*\* Catalogul oficial al soiurilor (hibrizilor) de plante de cultură din România

**9. Corroborating the contents of the discipline with the expectations of the representatives of the epistemic communities, professional associations and representative employers in the field related to the program**

In order to identify ways of modernizing and continuously improving the teaching and the content of the courses, with the most current topics and practical problems, the teachers participate in meetings where they meet with farmers and specialists from the mountain area, with foresters and communal administrative bodies being debated. current and prospective aspects of plant cultivation technology, disease control and pest control with new products and application of new forms of soil and foliage fertilizers.



## 10. Evaluation

Activity type	10.1. Evaluation criterias	10.2. Methods of evaluation	10.3. Percentage of the final grade
<b>10.4. Course</b>	Presentation of the knowledge acquired by the biology, the relations of the plants with the factors of vegetation, the technology of cultivation and conservation of the plants	Written exam	70%
<b>10.5. Seminar / Laboratory</b>	Presentation of reports	Content + Drafting + Presentation	30%
<b>10.6. Minimum standard of performance</b>			
Mastery of scientific information transmitted through lectures and practical papers at an acceptable level. Obtaining the passing grade for on-the-spot checks is a condition of promotability.			

<sup>1</sup> The cycle of studies - one of the variants is chosen - Bachelor / Master / Doctorate

<sup>2</sup> Discipline regime (content) - level undergraduate choose one of variantele- **DF** (fundamental discipline), **DD** (discipline domain), **SD** (Specialized discipline), **DC** (complementary discipline).

<sup>3</sup> The regime of the discipline (compulsory) - one of the variants is chosen - DI (compulsory discipline) DO (optional discipline) DFac (facultative discipline).

<sup>4</sup> A credit is equivalent to 25-30 hours of study (teaching activities and individual study).

Date completed

08.09.2020

Course holder

Prof. Dan VÂRBAN Phd.

Titular lucrari laborator/seminarii  
Lecturer Cristina MOLDOVAN Phd.

Date of approval in the  
department

14.09.2020

Department Director

Lecturer Cristina MOLDOVAN Phd.