Annex 6

SUBJECT OUTLINE

1. Information on the study programme

1.1 Academic institution	**UNIVERSITY OF ORADEA**
1.2 Faculty	**FACULTY OF ENVIRONMENTAL PROTECTION**
1.3 Department	**FORESTRY AND FOREST ENGINEERING**
1.4 Field of study	**FORESTRY**
1.5 Cycle of study	**LICENSE**
1.6 Study programme/Qualification	**FOREST EXPLOITATION/ENGINEER**

2. Information on the discipline

2.1 Name of discipline			**DENDROLOGY I**				
2.2 Course holder			**BARTHA SZILARD**				
2.3 Seminar/Laboratory/Project holder			**BARTHA SZILARD - LABORATORY**				
2.4 Year of study	I	2.5 Semester	2	2.6 Type of evaluation	Summative	2.7 Regime of discipline	O

(C) Compulsory; (O) Optional; (E) Elective

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

3.1 Number of hours per week	4	out of which: 3.2 course	2	out of which 3.3 seminar/laboratory/project	2
3.4 Total hours in the curriculum	56	out of which: 3.5 course	28	out of which 3.6 seminar/laboratory/project	28
Time allotment					
Study assisted by manual, course support, bibliography and notes					**24**
Additional documentation in the library/ on specialised electronic platforms and in the field					**16**
Preparation of seminars/laboratories/ topics/reports, portfolios and essays					**20**
Tutorship					**3**
Examinations					**3**
Other activities.....					

3.7 Total hours of individual study	**56**
3.9 Total hours per semester	**56**
3.10 Number of credits	4

4. Pre-requisites (where appropriate)

4.1 curriculum	General and Systematic Botany, Pedology, Forest meteorology.
4.2 competences	Basics knowledge in the description of woody plants and notions with the forest.

5. Conditions (where appropriate)

5.1. related to course	- Beamer.
5.2. related to seminar/laboratory/ project	- Equipment related to conduct laboratory classes (pressed plant material, cones, seeds, colour plates, sprout etc.) - Performing all laboratory works and field trip.

6. Specific competences acquired	
Professional competences	▪ C1.1 Describing theoretical and practical basics of forestry processes (through botanical description of forest species of interest) and biodiversity; ▪ C2.2 Explaining and interpretation of processes and phenomena associated to forestry production (by presenting the ecology of forest species); ▪ C1.5 Developing innovative designs, adapted to the concrete economic and ecological conditions to ensure the sustainability of forest stock and to preserve biodiversity (through discussing forest species requirements in relation to climate conditions and the vast scope of use of forest wood and non-wood products).
Transversal competences	▪ CT.1 Developing project under coordination to deal with some specific issues in the field and with the correct assessment of workload.

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

7.1 General objective	The course "Dendrology" aims at familiarizing the students with the basics necessary to understand woody plants. Thanks to the large amount of scientific data that this course provides (on the distribution and ecology of woody species, their taxonomy, systematic, morphology, and forestry value) this course will further contribute to a rational management of forests. Students have the opportunity to get familiarized both with the main indigenous species, which participate in a larger proportion of the forest flora of our country and with a number of exotic species which can be used in forestry or the creation of green spaces.
7.2 Specific objectives	The laboratory works are designed in such manner to provide practical skills to forestry engineers in order to combine crops (grasses), orchards and forests and / or livestock simultaneously or sequentially while applying management practices that are compatible with the methods used by the local population.

8. Contents*/

8.1 Course	Methods of teaching	No. of hours/Remarks
Chapter. 1 Notions introductiones. 1.1 Dendrology like forestry discipline 1.2 Scientific dendrology bases.	Beamer. Some courses are conducted by teaching the topics and discussing them with the students.	2
Chap. 2 Subphylum Gymnospermae. 2.1 Class Cycadopsida. Ord. *Ginkgoales*. Fam. *Ginkgoaceae*.	Idem	2
2.2 Class Coniferopsida. Ord. *Coniferales*. Fam. *Pinaceae*.	Idem	10
2.3 Class Coniferopsida. Ord. C*oniferales*. Fam. *Taxodiaceae* 2.4 Class Coniferopsida. Ord. *Coniferales*. Fam. *Cupressaceae*.	Idem	4
2.5 Class Taxopsida. Ord. *Taxales*. Fam. *Taxaceae*. 2.6 Class Taxopsida. Ord. *Taxales*. Fam. *Cephalotaxacea*e.	Idem	2
Chap. 3 Subphylum Angyospermae. 3.1 Class Dicotyledoneae. Ord. *Fagales*. Fam. *Betulaceae*.	Idem	4
3.2 Class Dicotyledoneae. Ord. *Fagales*. Fam. *Fagaceae*.	Idem	4

Bibliography

1. Şofletea N., Curtu L., 2007, *Dendrologie*, Editura Universităţii "Transilvania", Braşov.
2. Doniţă, N., Geambaşu,T., Brad R., 2004, *Dendrologie*, Editura Universităţii Vasile Goldiş, Arad.
3. Doniţă N., *Dendrologie,* 2002, Editura Universităţii din Oradea, Oradea.
4. Stănescu V., Şofletea N., Popescu O., 1997, *Flora forestieră lemnoasă a României*, Editura Ceres, Bucureşti.
5. Negulescu, E.G., Săvulescu, A., 1965, *Dendrologie*, Editura Agro-Silvică, Bucureşti

8.3 Laboratory		
Chap. 1 Subphylum Gymnospermae. 1.1 Specific characteristics for the recognition of the species such as: *Ginko, Abies, Tsuga, Pseudotsuga*	Discussing the morphology of species, by means of learning tools such as: drawings, seeds and stems.	4
1.2 Specific characteristics for the recognition of the species such as: *Picea, Larix, Cedrus*	Idem	4
1.3 Specific characteristics for the recognition of the species such as: *Pinus, Taxodium, Sequoia, Cryptomeria*	Idem	4
1.4 Specific characteristics for the recognition of the species such as: *Thuja, Biota, Chamaecyparis, Cupressus, Taxus, Cephalotaxus.*	Idem	4
Chap. 2 Subphylum Angyospermae. 2.1 Specific characteristics for the recognition of the species such as: *Carpinus, Corylus*	Idem	2
2.2 Specific characteristics for the recognition of the species such as: *Betula, Alnus*	Idem	2
2.3 Specific characteristics for the recognition of the species such as: *Fagus, Castanea.*	Idem	4
Going out on-the-spot output (Hidisel forest) - to view browse manufacture	Idem	4

Bibliography
1. Şofletea N., Curtu L., 2007, *Dendrologie*, Editura Universităţii "Transilvania", Braşov.
2. Doniţă, N., Geambaşu,T., Brad R., 2004, *Dendrologie*, Editura Universităţii Vasile Goldiş, Arad.
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* The content, respectively the number of hours allocated to each course / seminar / laboratory / project will be detailed 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

Course content is adapted to meet the requirements of the labor market, as agreed with the social partners, professional associations and employers in the study program related field. Course content is reflected in the Forestry specialization curricula in other universities in Romania that approved these academic fields of specializations, therefore familiarization with the basics is an urgent requirement of the employers in forestry and logging, such as RNP, ICAS, IFN , etc.

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	- To obtain grade 5: all topics must be dealt with at minimum standards; - To obtain grade > 5 topics must be dealt with at maximum standards;	Written exams – grid test; Consisting of topics from the course (20 grid). For exams promotion the student must treats well 14 grids, for the note 5	75%
10.6 Laboratory	Presentation of the laboratory work will be carried in the last laboratory session.	Boards and cones identification; Weighting in the final grade laboratory note is weighted 25%.	25%
- Grade components: Exams (Ex), Laboratory (L); - Grade calculation formula: **N=0.75Ex+0.25L**; - Condition for obtaining the credits: N>5; L>5;			
10.8 Minimum standard of performance Completing academic work under coordination to solve specific problems in forestry and logging, with accurate assessment of workload, available resources and time required for completion and risk assessment under the enforcement of health and safety at work rules and regulations.			

Date

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