Annex 6

DISCIPLINE DESCRIPTION

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 FORESTRY ENGINEERING
1.4 Field of study	FORESTRY
1.5 Cycle of study	BACHELOR
1.6 Study programme/Qualification	FORESTRY / ENGINEER

2. Information on the discipline

2.1 Name of discipline				Topography i			
2.2 Course holder				Lecturer Phd. Eng. Crainic Ghiţă Cristian			
2.3 Seminar/Laboratory/Project holder				Lecturer Phd. Eng. Crainic Ghiţă Cristian			
2.4 Year of study	I	2.5 Semester	1	2.6 Type of evaluation	Ex.	2.7 Regime of discipline	C

(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					**11**
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					**10**
Examinations					**10**
Other activities: consultations, student circles, student scientific communication sessions, volunteering, ERASMUS mobility selection					**5**
3.7 Total hours of individual study	**69**				
3.9 Total hours per semester	**125**				
3.10 Number of credits	**5**				

4. Prerequisites (where appropriate)

4.1 curriculum	Mathematics (at least at high school level), Physics, Computer Science.
4.2 competences	The knowledge of mathematics and physics is necessary for the proper

	understanding and implementation of topography concepts, which are based on these disciplines. The use of the computer is necessary for the realization of topographical and geodetic applications, for the implementation of the calculation algorithms presented in the course and for the realization of various projects related to the sector of terrestrial measurements in the forest fund.

5. Conditions (where appropriate)

5.1. related to course	The existence of the necessary logistics: video projector, computer, printer, internet, course support. It is forbidden to use a cell phone during the course.
5.2. related to seminar/laboratory/ project	Equipment related to the development of geodetic and topographical applications: -GPS receivers, total station, level, electronic theodolite, classic theodolite, accessories, digital planimeter, polar planimeter, maps and plans in analog format, maps and plans in digital format, orthophotoplan, printer, plotter, - specialized computer programs used for collecting data from the field, transferring, verifying and processing them, - guidance for making practical applications and drawing up projects. The practical works and reports will take place in the laboratory and respectively in the field depending on their specificity and the proposed theme to be presented to achieve the established objectives. It is forbidden to use a cell phone during the laboratory.

6. Specific competences acquired	
Professional competences	C.P.1. The foundation of the sustainable management of the forest fund, the hunting fund, the salmon farm, and the conservation of biodiversity. C.P.2. Elaboration and implementation of technical-economic projects regarding the regulation of the forestry, hunting and salmon production process. C.P.3. Development, implementation and monitoring of ecological reconstruction projects of ecosystems.

Transversal competences	C.T.1. Elaboration and observance of a work schedule and the fulfillment of own attributions with professionalism and rigor. C.T.2. Application of effective communication techniques, in specific teamwork activities; assuming a role within the team, and respecting the principles of the division of labor. C.T.3. Objective self-assessment of the need for continuous professional training, with the aim of constantly adapting and responding to the demands of economic development; the use of information and communication techniques, and an international language.

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

7.1 General objective	The implementation of basic topographical notions that have applicability in current and special activities within the national forestry fund, in order to train future forestry specialists.
7.2 Specific objectives	Implementation of notions related to the science of terrestrial measurements and the shape and dimensions of the earth; Implementation of notions related to the basic topographical elements; Implementation of notions related to topographical representations; Implementation of notions related to the processing of topo-geodetic measurements

8. Content*/

8.1 Course	Methods of teaching	No. of hours/Remarks
1.Introductory elements -Topography - The science of terrestrial measurements; -The shape and dimensions of the earth.	PP.Presentation, lectures, interactive dialogue. At the beginning of the course, the course sheet will be presented, analyzing in detail all the aspects contained. Students will be informed about the objectives of the course, the structure of	2
2. Units of measure		4
3. Basic topographic elements -Topographic elements of the land; -Coordinate systems; -Reference surfaces; -Principles of general topography.		8
4.Topographic representations -Plans, maps and profiles -Collection of data related to topographical elements by		8

rasterized methods. -Preparation of topographic representations -Exploitation of topographic representations	the course, the recommended bibliography, their obligations and the way of examination	
5.Notions related to the processing of topo-geodetic measurements		6

Bibliography:

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4.Boş N., 2003, *Cadastru general,* Editura All Bek, Bucureşti;
5.Boş N., 1993, *Topografie*, Editura Didactică şi Pedagogică, Bucureşti;
6.Casaca J., Matos J., Baio M., 2005, *Topografia General*, 5.ª Ediçáo, GPS, Fotogrametria, Detecçáo Remota, Modelaçáo Numérica do Relevo, Lidel ediçáo técnicas, Lisboa- Porto;
7.Chiţea G., Vorovenci I., Mihăilă M., Chiţea C.G., 2011, *Topografie. Metode de ridicare în plan*, Editura Lux Libris, Braşov;
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15.Sabău N.C., 2010, *Măsurători Terestre*, Editura Universităţii din Oradea;
16.Tămâioagă G., Tămâioagă D., 2007, *Automatizarea lucrărilor de cadastru*, Editura Matrix Rom, Bucureşti;
17.Vorovencii I., 2006, *Topografie*, Editura Universităţii Transilvania din Braşov.

8.3 Laboratory		
1.Units of measurement (outing on the field);		4
2. The topographic circle and the trigonometric circle;		2
3.Calculul şi raportarea elementelor planimetrice ale terenului: -metode clasice; -metode moderne;		4
4.Materialization of topographical points (exit to the field) -on analogue and digital support; -on the field;		2
5.Working with the map and the plan (field trip) -classic work methods;		4

-modern working methods;		
6.Drawing profiles -Tracing profiles using classic methods - longitudinal profiles; - transverse profiles; -Tracing profiles using modern methods - longitudinal profiles; - transverse profiles;		4
7. Raster data collection		4
8.The processing of topo-geodetic measurements		4

Bibliography

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13.***Geodimeter CU, 2002, User Guide Software, Part 2, Sweden;
14.***Geodimeter CU, 2002, User Guide Software, Part 3, Sweden;
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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

The content of the discipline is adapted and meets the requirements imposed by the labor market, being approved by social partners, professional associations and employers in the field related to the degree program. The content of the discipline can be found in the curricula of the Forestry specialization and in other university centers in Romania that have accredited these specializations, so knowledge of the basic concepts is a strict requirement of employers in the field of forestry and forest exploitation, such as: RNP, ICAS, IFN , etc.

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the final grade
10.4 Course	The form of knowledge evaluation will be the oral exam. The topics will be representative of the material presented in the course. To pass the exam, it is necessary to solve each subject, and the results obtained in the exam must be at least grade 5. The final mark represents the arithmetic average of the marks related to the exam subjects. For grade 5, the student must have minimal knowledge and correctly approach at least 50% of the issues related to the subject; For grade 6, the student must correctly address 60% of the issues related to the subject; For grade 7, the student must correctly address 70% of the issues related to the subject; For grade 8, the student must correctly address 80% of the issues related to the subject; For grade 9, the student must correctly address 90% of the issues related to the subject; For grade 10, the student must correctly address all the issues related to the subject.	Oral exam: the topics will be representative of the course theme.	The grade from the exam will have a weight of 60% of the final grade.
10.6 Laboratory	The form of knowledge evaluation will be the practical test. The topics will be representative of the material presented in the practical works. To pass the practical test, it is necessary to solve each subject, and the results obtained in the exam must be at least grade 5. For grade 5, the student must have minimal knowledge and correctly approach at least 50% of the issues related to the subject; For grade 6, the student must correctly address 60% of the issues related to the	Practical test: the topics will be representative of the subject matter of the practical papers.	The grade from the practical test will have the weight of 40% of the final grade.

	subject; For grade 7, the student must correctly address 70% of the issues related to the subject; For grade 8, the student must correctly address 80% of the issues related to the subject; For grade 9, the student must correctly address 90% of the issues related to the subject; For grade 10, the student must correctly address all the issues related to the subject. Completion of all practical works is a mandatory condition for appearing in the exam.		
10.8 Minimum standard of performance: Carrying out works under coordination, to solve specific problems in the field of forestry and forest exploitation, with the correct assessment of the volume of work, the available resources, the time required for completion and the risks, under conditions of application of the safety and health rules in the work.			

Date of completion Signature of course holder, laboratory **

E-mail: gccrainic@yahoo.com
Lecturer Phd. Eng. Crainic Ghiţă Cristian

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Date of approval in the department Signature of the Head of Department

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Dean signature

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** - Name, first name, academic degree and contact details (e-mail, web page, etc) will be specified.
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Signature of the Head of Department***

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Dean Signature***

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*** - Name, first name, academic degree and contact details (e-mail, web page, etc) of the academic entity beneficiary of the Discipline Outline will be specified.

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