

General Information	
Academic subject	Viability for agro-forestry-pastoral mechanization
Degree course	Agricultural Sciences and Technologies (STA) Land and Environmental Science and Technology (STAF)
Curriculum	
ECTS credits	6
Compulsory attendance	No
Language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Francesco Santoro	francesco.santoro@uniba.it	AGR/09

ECTS credits details			ETCs
Basic teaching activities	Lectures (4)	Practical (2)	6

Class schedule	
Period	II term
Year	II & III
Type of class	Lecture – Practical

Time management	
Hours	150
In-class study hours	60
Out-of-class study hours	90

Academic calendar	
Class begins	01/03/2021
Class ends	11/06/2021

Syllabus	
Prerequisites/requirements	Knowledge of mechanization and forestry usage is recommended
Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS)	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> Knowledge of the main methods of forestry use and of the different work systems. Classification and function of forest roads. Planning, design, construction and maintenance of forest roads. <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> Development of the ability to apply what has been learned to real world cases. <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> Ability to divert from pure notions in order to independently manage the solution of non-standard problems. <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> Ability to express oneself through clear and scientifically rigorous language. <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> Learning of basics and consolidation of logical and scientific aptitudes useful in following studies and professional applications. <p>The results of the expected learning, in term of knowledge and ability, are listed in the Annex A of the Didactic Regulation of the Bachelor Course (expressed by the European descriptors of the study title).</p>
Contents	The course starts from classification and function of forest roads to acquire knowledge on their planning, design, construction and maintenance.
Course program	<p>Lectures and group activities</p> <p><i>Classification of the main characteristics of forest usage</i> Prevailing slope and accidental nature of the terrain. Cut intensity. Dimensions of used wood. Criteria and choice of yarding systems.</p> <p><i>Forestry works</i> Work phases. Short-wood, tree-length and full-tree work systems.</p> <p><i>Forest road functions</i></p>

	<p>Surveillance. Usage. Forest fire prevention. Accessibility. <i>Forest road classification</i> Permanent forest roads. Permanent forest tracks. Functions and differences between roads and tracks. Temporary yarding works <i>Forest road planning</i> Forest road plan. Geographic information systems. Optimal Forest road density index. Guidelines for choosing the yarding system <i>Forest road design</i> Purpose of the design and its criteria and impact. Preliminary and executive design. Forest road parts. Accessories used in forest roads <i>Forest road construction</i> Construction management methods and elements for cost estimation. Constructive phases <i>Forest road maintenance</i> Purpose of maintenance. Ordinary and extra-ordinary maintenance. Elements for cost estimation Practice Visits to construction sites for forest roads and evaluation of real case studies</p>
Bibliography	<ul style="list-style-type: none"> o S. Baldini, “Viabilità forestale. Aspetti ambientali, legislativi e tecnico economici”, Agra Editore, 2001
Notes	Lessons notes integrate the contents of the reference texts
Teaching methods	The course topics will be treated with the help of Power Point presentations and case study analyses with students’ participation.
Assessment methods (indicate at least the type written, oral, other)	<p>The exam consists of an oral test on the topics developed during the lectures and practice as reported in the Didactic Regulations of the Degree Course. The student's learning is assessed on the basis of pre-established criteria, as detailed in the Didactic Regulations of the Degree Course.</p> <p>For students who have taken the exoneration test, the assessment of the profit exam is expressed as the average between the mark given on the exoneration and the exam.</p> <p>The exam for foreign students can be done in English</p>
Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are.	<ul style="list-style-type: none"> • <i>Knowledge and comprehension ability</i> <ul style="list-style-type: none"> o The student must demonstrate knowledge of the main forestry usage techniques and the characteristics of use, planning, construction and maintenance of forest roads.. • <i>Knowledge and applied comprehension ability</i> <ul style="list-style-type: none"> o The student must be able to set up and develop a simple forest track referring to simple real cases. • <i>Autonomy of judgement</i> <ul style="list-style-type: none"> o The student must demonstrate that he is able to follow alternative explanatory paths to standardized models. • <i>Communication skills</i> <ul style="list-style-type: none"> o The student must demonstrate sufficient knowledge of the reference scientific terminology. • <i>Learning ability</i> <ul style="list-style-type: none"> o The student will be able to independently examine and investigate issues related to forest roads construction.
Further information	<p>Visiting hours every day from 09:30 to 10:30 in the teacher's room by appointment agreed by e-mail.</p>