

Discipline	<i>PLANT PRODUCTION, PART 2 (INDUSTRIAL AND ETHERIC OIL CROPS)</i> code: 35 summer semester			
Specialty	AGRONOMY			
ECTS credits: 6	Form of assessment: Exam			
Lecturer	Prof. Dragomir Plamenov, PhD Room 429 Phone: +359 52 383 670 E-mail: dplamenov@tu-varna.bg			
Department	PLANT PRODUCTION			
Faculty	<i>FACULTY OF MECHANICAL ENGINEERING AND TECHNOLOGIES</i>			
Annotation:				
<p>The course "Plant Production – part 2 (Technical and essential oil crops)" aims at the study of technical cultures and plants rich in essential oils. The resulting seeds, root crops, tubers, fiber, stems, flowers, leaves serve as a raw material for technical processing in various industries. Depending on the nature of the resulting production, they are differentiated into tuberose, root, fiber, oil, essential oil and flavor crops. The aim of the course is to provide students with sufficient information to know the basic technical and essential oil cultures and the technology of their cultivation. Structurally determining issues will be the biological characteristics of the individual plant species in close connection with the practice: type of development, type of inflorescence, fruit, seed and breeding patterns. Emphasis will be placed on the most important aspects of agro-technology: precursors, soil preparation, sowing, weed control, pests and diseases, harvesting.</p>				
CONTENTS:				
Training Area			Hours lectures	Hours seminar exercises

Root crops: sugar beet (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Tuberous crops: potatoes (origin and significance, morphology and biological requirements, peculiarities in agrotechnics, variety composition).	2	
Fibrous crops: cotton (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Fibrous crops: flax (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Fibrous crops: hemp (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Oil-bearing crops: sunflower (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Oil-yielding crops: peanuts (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, variety composition).	2	
Oil-bearing crops: sesame (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, variety composition).	2	
Oil-bearing crops: rapeseed (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Narcotic (tasty) crops: tobacco (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Essential oil crops: Kazanlak rose (origin and significance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Essential oil crops: lavender (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Essential oil crops: mint (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Essential oil umbelliferous crops: fennel, anise, coriander (origin and importance, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
Essential oil umbelliferous crops: cumin, Italian cumin, fennel (origin and meaning, morphology and biological requirements, peculiarities in agrotechnics, varietal composition).	2	
General morphological characteristics, taxonomy and varieties/hybrids of root and tuber crops.		2
Acquaintance with the morphological structure of the root crop. Recognition of sugar beet and fodder beet. Morphological structure and anatomical structure of		3

the tuber.		
3General morphological characteristics, taxonomy and varieties of fiber crops.		3
Recognizing the types of twigs in cotton. Cotton quality indicators. Getting to know the types of linen. Flax grading indicators. Identifying male and female hemp plants.		3
General morphological characteristics, taxonomy and varieties/hybrids of oilseed crops.		4
Getting to know the sunflower groups. Determining the percentage of boats. Calculation of biological yield in sunflower. Determining the randomness of peanuts. Recognizing canola and canola.		3
General morphological characteristics, taxonomy and varieties of tobacco.		2
Acquaintance with the varieties of tobacco grown in Bulgaria. Oriental tobacco grading requirements.		2
General morphological characteristics, taxonomy and varieties of essential oil crops.		4
Getting to know the morphological differences between essential oil crops from the Rosaceae family. Identifying types of lavender and types of mint.		2
Recognition of the species of the Apiaceae family.		2
TOTAL: 60 h	30	30