

Botany I (Plant anatomy and morphology) (1st Year of study, 1nd Semester)

Credit value (ECTS) 5 (P); 4 (H)

Course category

Fundamental (Imposed)

Course holder:

Prof. Culi SÎRBU, PhD

Discipline objectives (course and practical works)

The course aims to provide students the theoretical basis of the plant morphology and anatomy, and to form basic skills to act autonomously in observing, analyzing, interpreting and finding concrete solutions in plant morphology and anatomy.

Practical works seek to familiarize students with the technical work in the botany laboratories, in order to know the structure and the role of plant cells and tissues, as well as the structural and functional organization of the vegetative and generative organs of plants.

Contents (syllabus)

Course (chapters/subchapters)
1. Plant cells
2. Plant tissues
3. The morphology and anatomy of the plant organs
3.1. The vegetative organs of plants: the root, stem and leaf
3.2. Plant multiplication: vegetative, asexual, sexual
3.3. The generative organs of plants: the flower, fruit and seed

Practical works
The microscope. The plant cell
The plant tissues
Root morphology and anatomy
Stem morphology and anatomy
Leaf morphology and anatomy
Flower: the perianth
The fruit and the seed

Bibliography

P un M. el al. 1980 - Botanică. Edit. Did. i Ped. Bucure ti.

R v ru M., Anghel Gh. Buia Al., Nyárády A., Morlova I. 1967 - Botanica. Edit. Did. Ped. Bucure ti.

Sîrbu C. 2020 – Botanica. Morfologia i anatomia plantelor. Edit. Ion Ionescu de la Brad, Ia i.

erb nescu-Jitariu Gabriela, Toma C. 1980 – Morfologia i anatomia plantelor. Edit. Did. Ped., Bucure ti.

Toma C., 1975, 1977 - Anatomia plantelor (I, II). Litogr. Univ. “Al. I. Cuza”, Ia i.

Toma C., Ni Mihaela 1995 - Celula vegetal , Edit. Univ. “Al. I. Cuza”, Ia i.

Turenschi E., Pascal P., **Sîrbu C.**, Paraschiv N.L. 1998 - Lucrari practice-Botanica, Litogr. USAMV Ia i, 146 pp.

Zanoschi V., Toma M., 1990 – Curs de Botanic . Partea I-a, Anatomie i Morfologie, Litogr. Inst. Agr. Ia i.

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Direct participation in learning activities	Evaluation during the semester	20%
Periodic tests on the practical works	Tests with various items	20%
Final examination	Written examination	60%

Contact

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Botany, II (Plant systematic) (Ist Year of study, IInd Semester)

Credit value (ECTS) 4

Course category

Fundamental (Imposed)

Course holder:

Prof. Culi SÎRBU, PhD

Discipline objectives (course and practical works)

The course aims to help students acquire the main concepts related to the plant classification (definition, hierarchy, nomenclature and identification of plant taxa); knowledge of general characteristics of the plant kingdoms; knowledge of general characteristics and principal representatives of the phyla *Bryophyta*, *Polypodiophyta*, *Pinophyta* and *Magnoliophyta*. The representative families, genera and species of the vascular flora of Romania are presented (which are more common in the natural environment or have greater importance in relation to human interests).

Practical works aim the direct observation and knowledge of the main vascular plant families, representative for the flora of Romania.

Contents (syllabus)

Course (chapters/subchapters)
1. Plant systematic and taxonomy - general concepts
1.1. Classification systems
1.2. Taxonomic units (taxa)
1.3. Botanical nomenclature
1.4. The systematic overview of the plant world
1.5. The plants identification
2. The kingdoms <i>Monera</i> , <i>Protista</i> and <i>Fungi</i> (general characters)
3. The kingdom <i>Plantae</i> (general characters and systematic)
3.1. Phylums <i>Bryophyta</i> , <i>Polypodiophyta</i> and <i>Pinophyta</i>
3.2. Phylum <i>Magnoliophyta</i>
3.2.1. Class <i>Magnoliopsida (Dicotyledonatae)</i>
3.1.1. Subclass <i>Magnoliidae</i>
3.1.2. Subclass <i>Hamamelidae</i>
3.1.3. Subclass <i>Rosidae</i>
3.1.4. Subclass <i>Caryophyllydae</i>
3.1.4. Subclass <i>Dilleniidae</i>
3.1.6. Subclass <i>Asteridae</i>
3.2.2. Class <i>Liliopsida (Monocotyledonatae)</i>

Practical works
Phylum <i>Bryophyta</i> , Phylum <i>Polypodiophyta</i>
Phylum <i>Pinophyta</i> : Fam. <i>Pinaceae</i>
Phylum <i>Magnoliophyta</i> : Fam. <i>Ranunculaceae</i>

Fam. <i>Papaveraceae, Moraceae, Fagaceae, Juglandaceae</i>
Fam. <i>Rosaceae</i>
Fam. <i>Fabaceae</i>
Fam. <i>Aceraceae, Vitaceae, Apiaceae</i>
Fam. <i>Caryophyllaceae, Chenopodiaceae, Brassicaceae</i>
Fam. <i>Salicaceae, Tiliaceae, Malvaceae, Oleaceae, Convolvulaceae</i>
Fam. <i>Cuscutaceae, Solanaceae, Scrophulariaceae, Orobanchaceae</i>
Fam. <i>Lamiaceae</i>
Fam. <i>Asteraceae</i>
Fam. <i>Liliaceae, Amaryllidaceae, Iridaceae</i>
Fam. <i>Poaceae</i>

Bibliography

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- Ciocârlan V., Berca M., Chirilă C., Coste I., Popescu Gh., 2004 – Flora segetală a României, Edit. Ceres, București.
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- Răvruș M., Anghel Gh. Buia Al., Nyarady A., Morlova I. 1967 - Botanica. Edit. Did. Ped. București.
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- Sîrbu C.**, Paraschiv N.L. 2005 – Botanica sistematică. Edit. I.I. de la Brad Iași.
- Sîrbu C.** 2016 – Sistematica plantelor – note de curs (pdf).
- Turenschi E., Pascal P., **Sîrbu C.**, Paraschiv N.L. 1998 – Lucrări practice-Botanica, Litogr. USAMV Iași, 146 pp.

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Active participation in learning activities	Evaluation during the semester	20%
Periodic tests on the practical works	Tests with various items	20%
Final examination	Written examination	60%

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