PLANT BIOLOGY (I YEAR)

Course structure (no. of hours per week)

Semester	Course	Seminar	Practical work	Project
V	2	—	2	—

Discipline status

Compulsory.

Discpline titular

Lecturer PhD DVM Rusu Oana-Raluca

Discipline objectives (course and applications)

1. Acquiring of theoretical and practical knowledge regarding plant cell and tissues, recognition of morpho-anatomical traits of plant organs.
2. Ability to differentiate between plant species and to recognize the most important medicinal plants
3. Knowledge of plant species with medicinal value and elements related to toxicity of plants species
4. Knowledge and interpretation of specialty notions from the field of plant biology

Discipline content (Analitic programme)

Course (chapters/subchapters)	No. hours
Plant Biology – introductory notions. Plant cytology (plant cell-components; cell division)	2
Plant histology (meristematic tissues; permanent tissues: protective, fundamental, vascular, mechanical, secretory, sensory tissues)	2
Plant organs – structure and function: root, stem, leaf, flower, fruit, seed	4
Plant systematics Lower plants Division Pteridophyta Division Spermatophyta: Gymnospermae and Angiospermae	6
Elements of chemotaxonomy. Plant metabolites • Medicinal plants containing terpenes - Description, Vegetal products, Bioactive and toxic compounds, Therapeutic/toxic activities, Therapeutic uses. • Medicinal plants containing polyphenols - Description, Vegetal products, Bioactive and toxic compounds, Therapeutic/toxic activities, Therapeutic uses. • Medicinal plants containing alkaloids - Description, Vegetal products, Bioactive and toxic compounds, Therapeutic/toxic activities, Therapeutic uses. • Plants with nutritional value (animal feed)	14

Practical work	No. hours
Techniques used in the Plant biology laboratory Cytology (plant cell-components; cell division)	2
Histology: meristematic tissues; permanent tissues: protective, fundamental, vascular, mechanical, secretory, sensory tissues	2
Plant organs: root and stem – morpho-anatomy	2
Plant organs: leaf and flower – morpho-anatomy	2
Plant organs: fruit and seed – morpho-anatomy	2
Lower plants – botanical characterization of medicinal species	2
Gymnosperms - botanical characterization of medicinal species	2
Angiosperms - botanical characterization of medicinal species and of plants with nutritional value	14

Bibliography

1. Simpson M (2019) Plant systematics, 3rd edition. Amsterdam: Elsevier, Academic Press
2. Singh G (2019) Plant Systematics – An integrated approach, 4th edition. Boca Raton: CRC Press.
3. Mauseth J (2014) Botany- an introduction in plant biology, 5th edition. Burlington: Jones & Bartlett Publishers.
4. Glimn-Lacy J, Kaufman P (2007) Botany Illustrated: Introduction to Plants, Major Groups, Flowering Plant Families, 2nd edition. New York: Springer
5. Badal S, Delgoda R (2017) Pharmacognosy. Fundamentals, Applications and Strategy. London: Elsevier, Academic Press.
6. Barnes J, Anderson LA, Phillipson JD. (2007) Herbal Medicines, 3rd edition. London: Pharmaceutical Press.

Didactic methods

Course: Classic, Interactive Power Point Presentation
Practical work: fundamental notions taught to students, making herbs, papers, visits to the botanical garden and identification of medicinal, toxic and fodder plants in the veterinary field.

Activity forms	Evaluation * (practical work, others)	Percent of the final grade
Exam	Written, oral	60 %
Semester evaluation (practical work)	Test (Essay)	40 %

Contact

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