

## Plant Anatomy

1. Lecturers: Avksentyeva Olha Oleksandrivna, associate professor of the department of plant and microorganism physiology and biochemistry; Dzhameyev Vadym Yuriyovych, senior lecturer of the department of plant and microorganism physiology and biochemistry.
2. Status: compulsory for bachelors.
3. Course, semester: 1st academic year, 1th semester.
4. Number of credits – 1,5, general academic hours – 54, including lectures – 18, laboratory practice – 18, self-study – 20.
5. Preliminary requirements: knowledge of the disciplines of natural science
6. Description of the course: a course "Anatomy of plants" includes modern knowledge of the internal structure of plant body. The general course "Anatomy of plants" is the introductory part of the theoretical component of botanical subjects. Within the course current up-to-date information about the structure of plant cell, its specific features and characteristics of the components are described. A variety of anatomical, morphological and functional features of plant tissues, their development in ontogenesis and phylogeny are considered. Also the course includes the structure of stems, leaves, roots, their metamorphosis and an internal structure under the influence of environmental factors. There are practical aspects of contemporary functional, comparative, ecological anatomy of plants in the course.

Sections: plant cell; plant tissues; vegetative organs.

Knowledge and skills:

- knowledge of historical information of plant anatomy;
  - knowledge of plant anatomy terms and definitions;
  - knowledge of the structure of plant cell, its differences from animal and fungi cells;
  - understanding of the anatomical and functional characteristics of plant tissues;
  - knowledge of the anatomical structure of vegetative organs;
  - ability to investigate plant cell, tissues and vegetative organs using light microscopy;
  - to do histochemical preparations of plant tissues.
7. Course organization: lectures and laboratory classes (lab practice). Forms of control: tests, defense of laboratory reports, final test.
  8. Language: Ukrainian.
  9. Educational and methodological support: program, schedule of classes, educational and scientific literature, multimedia presentations, methodical complex, guidelines for laboratory practice.

Studentbooks:

1. *Strasburger. Lehrbuch der Botanik für Hochschulen* / P. Sitte, E.W. Weiler, J.W. Kadereit, A. Bresinsky (Russian Edition): P.1 Cell Biology, Anatomy and Morphology. – Moscow: Academia, 2007. – 368 p.
2. *Krasilnikova L.A. Plant Anatomy. Plant cell, tissues, vegetative organs* / L.A. Krasilnikova, Yu.A. Sadovnichenko. – Kharkiv: Osnova, 2007. – 237 p.
3. *Lotova L.I. Botany: Morphology and anatomy of higher plants*. – Moscow: «LIBRIKOM», 2010. – 512 p.
4. *Panyuta O.O. Plant Anatomy* / O.O. Panyuta, O.P. Olchovych. – Kyiv: Roda, 2009. – 272 p.
5. *Timonin A.K. Botany (4 parts)*. P.3. Higher Plants. – Moscow: Publish Centre «Academia», 2007. – 352 p.