

UNIVERSITY OF BELGRADE
FACULTY OF MEDICINE
PhD STUDIES

NAME OF THE MODULE: Personalized therapy of hematological diseases

CONTENT OF THE PROGRAM:

The study program has two obligatory and seven elective subjects, thus providing a wide range of current scientific and professional information for participants. The subject matter of the first obligatory subject allows students to acquire knowledge related to the basic principles of hematopoiesis and complex regulatory processes that lead to the proliferation, differentiation and maturation of blood cells in physiological and pathological conditions, with an understanding of the molecular, intra- and extra-cellular mechanisms of control of the proliferation and differentiation of blood cells. In the second obligatory subject, students are introduced to the biology of malignant cells, molecular genetic, immunological and biochemical characteristics of hematological neoplasms, as well as modern therapeutic modalities, including the application of "targeted therapy". Seven elective subjects provide complete scientific information, with the participation of foreign visiting professors of Faculty of Medicine, University of Belgrade. In elective subject 1 students are introduced to the heterogeneous, multi-step process of transformation of a normal hematopoietic cell into a leukemic cell. In elective subject 2 students gain knowledge about the mechanisms of chronic lymphoproliferative diseases: lymphoma, chronic lymphocytic leukemia, as well as immunoproliferative disorders. In elective subject 3 students master the mechanisms of chronic myeloproliferative diseases. In elective subject 4 knowledge is gained about the mechanisms of thrombosis associated with malignancies, which is the second leading cause of death in these patients. Elective subject 5 provides knowledge about basic hemostasis that includes all congenital disorders of the hemostasis system, including hemophilia. Elective subject 6 refers to knowledge about congenital and acquired diseases of the lymphohematopoietic system in childhood. Elective subject 7 provides all current knowledge on transplantation biology and adoptive immunotherapy.

ENROLLMENT REQUIREMENTS:

Persons with completed integrated academic studies in medical sciences for a duration of 6 years (360 ESPB), who have shown a sense for scientific and research work in the relevant field as evidenced by publications in which the candidate is an author (one original paper in a journal cited in the Medline database data in which the candidate is the author).

MEMBERS OF THE ADVISORY BOARD:

Prof. Milena Todorović Balint, full professor at Faculty of Medicine, University of Belgrade, president

Prof. Andrija Bogdanović, full professor at Faculty of Medicine, University of Belgrade, member

Prof. Dragana Vujić, full professor at Faculty of Medicine, University of Belgrade, member

Prof. Jelena Bila, full professor at Faculty of Medicine, University of Belgrade, member

Scientific advisor Vladan Čokić, Institute for Medical Research at University of Belgrade, member

Secretary of the module - assistant professor Marijana Virijević, Faculty of Medicine, University of Belgrade

OBLIGATORY SUBJECTS:

1. Molecular mechanisms of hematopoiesis regulation
2. Fundamental principles of pathogenesis of hematological neoplasms and modern therapeutic modalities

ELECTIVE SUBJECTS:

1. Mechanisms of leukemogenesis and modern treatment modalities of adult acute leukemias
2. Molecular genetic and immunophenotypic characteristics of chronic lymphoproliferative neoplasms
3. Molecular pathogenesis and modern therapy of myeloproliferative neoplasms (MPN) and myelodysplastic syndromes (MDS)
4. Thrombosis and inflammation in malignancy: regulatory mechanisms
5. Congenital disorders of the coagulation system
6. Pediatric hematology
7. Hematopoietic stem cell transplantation and adoptive immunotherapy

