

LABORATORY TECHNOLOGIES IN TRANSFUSION MEDICINE AND TRANSPLANTATION	
GENERAL INFORMATION	
Course teacher	Prof. Marina Samardžija, MD, PhD
Associates	Asst. Prof. Marina Ferenac Kiš, PhD Asst. Prof. Saška Marcz, PhD Branislava Kojić Latas, MD Dejana Brkić Barbarić, MD Sandra Vitaić, MD
Study programme	Graduate University Study of Medical Laboratory Diagnostics
Course status	Elective
Year of study, semester	1 st year, 2 nd semester
ECTS credits	5
Form of teaching (number of classes)	Lectures: 35; seminars: 20; Practicum: 15
Expected number of students attending the course	20
COURSE DESCRIPTION	
Course objectives	
Objective of this course is to broaden previously acquired knowledge and master specific skills to perform work in laboratories implementing specific laboratory procedures in transfusion medicine and modern clinical organ and tissue transplantations.	
Course entry requirements and competencies needed for the course	
Completed courses at the Undergraduate Study Programme of Medical Laboratory Diagnostics or equivalent bachelor's degree (baccalaureate)	
Learning outcomes at study programme level	
1.1, 1.2, 2.1, 2.2, 2.3,2.4, 2.6, 3.1, 3.2	
Expected learning outcomes at course level	
After attending lectures, seminars, exercises, independent study and passing the exam, students will be able to: <ol style="list-style-type: none"> 1. use the knowledge of good laboratory practice in transfusion medicine. 2. evaluate laboratory methods in: immunohaematological diagnostics; in physiology and pathophysiology of haemostasis; in discovering markers of blood-borne diseases and in laboratory monitoring of patients after transplantation.s 3. Implement quality control procedures in transfusion medicine and tissue typing laboratories 4. Critically evaluate the role of specific laboratory procedures in modern clinical organ and tissue transplantations. 5. evaluate the scope and limitations of specific laboratory methods used for solving clinical problems of transplantation medicine. 6. critically evaluate scientific and professional papers. 	
Course content	
Lectures: Organization of transfusion treatment and quality assurance system. Blood and blood products. Laboratory testing for markers or agents of blood-borne diseases in the transfusion industry. Basics of immunohematology and laboratory testing. Laboratory tests of hemostasis and therapeutic apheresis. Laboratory aspects of hematopoietic stem cell transplantation. Transfusion treatment during transplantation of hematopoietic stem cells and solid organs. Biochemical aspects of solid organ and tissue transplantation. Microbiological aspects of tissue and organ transplantation.	
Seminars: Blood donors - a prerequisite for safe transfusion treatment. Hereditary and acquired	

disorders of hemostasis. Posttransfusion reactions. The main tissue tolerance system in humans. Transplantation of hematopoietic stem cells. Ethics in transfusion medicine and tissue and organ transplantation. Cytopheresis and plasmapheresis. Collection of hematopoietic stem cells from peripheral blood. Human herpesvirus-6 (HHV-6) infection after transplantation. Legal and economic aspects of transfusion medicine and tissue and organ transplantation. Infection with cytomegalovirus and BK polyomavirus after transplantation.

Laboratory exercises: Production of blood products and quality control. Risks in transfusion treatment. HLA typing.

Forms of teaching

Lectures; seminars; clinical practicums; independent assignments.

Students' responsibilities

Attendance is obligatory throughout all course forms, and the student has to attend all the exams. Student absence of up to 30% is considered acceptable in each teaching form. Practical work and seminars that were not completed have to be taken in the form of colloquiums. Student is obligated to attend all the exams.

Monitoring students' work (*Connecting learning outcomes, teaching methods and evaluation*)

Teaching activity	ECTS	Learning outcome	Student activity	Evaluation methods	Grade points	
					Min.	Max.
Attending classes Lectures	0.5	1-6	Attendance,	Attendance records	2	10
Seminars	1.0		Seminar paper	Writing and presenting seminar paper	8	25
Laboratory exercises	1.0	1-3	Practical work	Submitted report	10	15
Final exam	2.5	1-6	Studying for final exam	Written exam	30	50
Total	5				50	100

Evaluation of written part of final exam

Percentage of correct answers (%)	Grade points
65.00-69.99	30
70.00-74.99	33
75.00-79.99	35
80.00-84.99	38
85.00-89.99	45
90.00-94.99	48
95.00-100	50

Formulating the final grade:

Grade points achieved in classes are combined with points achieved in the final exam. Grading in the ECTS system involves absolute grading and represents one's final achievement. Grades are numerically expressed as follows: A – excellent (5): 80-100 grade points ; B – very good (4): 70-79.99 grade points; C – good (3): 60-69.99 grade points; D – sufficient (2): 50-59.99 grade points

Assigned reading (available in the library and in other media)

Title	Number of copies in the library	Availability in other media
Grgičević D.: Transfuzijska medicina u kliničkoj praksi, Medicinska naklada, Zagreb, 2006.	4	
Labar B, Hauptman E, editors. Hematologija, Zagreb, Školska knjiga, 2017.	7	
Relevant scientific and professional papers selected by teacher		On line

Further reading

1. Vuk T i sur.: Upravljanje kvalitetom u transfuzijskoj djelatnosti. HZTM, Zagreb, 2002.
2. Stuart FP. Organ Transplantation. Landes Bioscience; 2nd edition, 2003

Quality assurance methods that ensure the acquisition of exit competencies

Anonymous, quantitative, standardised students' opinion survey on the course and teacher's work, carried out by the Quality Assurance Office of the Faculty of Medicine in Osijek.