

CHART OF DISCIPLINE/ SYLLABUS

1. Study Program Data

1.1 High Education Institution	“VICTOR BABEȘ” UNIVERSITY OF MEDICINE AND PHARMACY TIMIȘOARA
1.2 Faculty	FACULTY OF MEDICINE
1.3 Department	V
1.4 Study Domain ¹⁾	License
1.5 Cycle Studies ²⁾	License
1.6 Study programme/ Qualification	Medicine

2. Course Data

2.1.Course/Department	Transfusion medicine							
2.2 Course tutor	Associated Professor Dr. Lighezan Rodica							
2.3 Practical activity tutors								
2.4. Year of study	II	2.5 Semester	I	2.6 Assessment	Colocvi al exam	2.7 Course rank	Content ³⁾	DD
							Mandatory /Compulsory ³⁾	DO

3. Duration/Estimated Time (number of hours/ semester of teaching activity)

3.1 Number of hours/ week	4	3.2 lecture/course	2	3.3 laboratory	2
3.4 Total hours of curriculum	56 (4 x 14 for 1 sem)	3.5 lecture/course	28	3.6 laboratory	28
Time distribution for course activities					Hours
Study support- manuals, lectures, references and notes					6
Additional documentation – library, dedicated platforms from domain					5
Documentation for seminars/ practical activity/ projects, themes, portofolios and essays					6
Tutoring					
Assessment					2
Other activities					
3.7 Total number of hours for individual study	17				
3.8 Total number of hours per semester	75 (3 credits x 25 hours/credits)				
3.9 Number of credits ⁵⁾	3				

4. Preconditions (if applicable and requested)

4.1 Courses- studied curriculum / rules for attending the course	Physiology, Histology, Cellular Biology, Genetics
4.2 Practical activities/seminars/projects studied curriculum, basic skills/ rules for attending the course	Interpretation of an analysis bulletin

5. Condition (if applicable and requested)

5.1 Courses	<ul style="list-style-type: none">• Mobile phones will be closed during classes, telephone conversations are not tolerated during the lectures, nor do students leaving the classroom for personal phone calls;• It will not be tolerated the students' delay in the course as it proves to be disruptive to the educational process;• The attendance at the course is mandatory, with a maximum of 50% of the total absences being accepted.
5.2 Laboratory/practical activity/ project	<ul style="list-style-type: none">• Mobile phones will be closed throughout the lab, with no telephone conversations being tolerated during the lab nor students leaving the classroom to take personal phone calls;• The students' lag will not be tolerated as it proves disruptive to the educational process;• The attendance at internships / practical works is mandatory, with a maximum of 20% of the total absences being accepted.• Recovery is allowed up to 30% of the total number of paid absences (except for medical cases that will require the Dean's individual approval).• Practical exam will be held in the last week of the semester or in the regular session, from the topic of the practical works / laboratories / traineeships previously displayed.

6. Key competencies and basic skills

Professional Competencies	<ol style="list-style-type: none">1. Learning the specific terminology in transfusion medicine: antigen, natural antibodies, atypical red cell antibodies (irregular);2. Identification of the blood component which is appropriate for the patient's needs;3. Ordering and monitoring a blood transfusion;4. Interpretation of the specific transfusional tests;5. Quality management of blood components;6. Ability to explain the appearance of clinical signs and symptoms as well as changes in laboratory tests in a post-transfusional complication;7. Diagnosis of the main post-transfusional complications and their management;
Transversal Competencies	<ol style="list-style-type: none">1. Concern for professional development by training critical thinking skills demonstrated through active participation in the lectures;2. Involvement in scientific research activities by participating in the elaboration of papers, studies, specialized articles;3. Efficient use of information sources and resources of communication and assisted professional training (Internet portals, specialized software applications, databases, online courses, etc.) both in romanian and in an other language of international circulation;4. To participate in media campaigns and volunteer activities, in order to promote the blood donation.

7. Disciplines/Course objectives (based on the key competencies)

7.1 Disciplines/Course general objectives	Learning the basics of transfusion medicine
7.2 Disciplines/Course specific objectives	<p>Knowledge and understanding of blood group systems; Knowledge about blood components and blood products; Understanding and applying the pre - transfusion compatibility testing rules; Interpretation of specific tests in transfusional hematology: blood grouping and extended phenotype, Compatibility testing procedures, screening for atypical red cell antibodies,</p>

	Clinical indications for blood transfusion; Blood ordering and monitoring the blood transfusions; Prevention and diagnosis of post-transfusional complications. Management of post-transfusional adverse events.
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8. Content

8.1 Lecture	Teaching method	Number of hours	Notification
1. Notions of ethics in transfusion medicine. - concepts of ethics	Interactive lecture	2	<ul style="list-style-type: none"> • Oral lecture delivered through structured, interactive Powerpoint presentations, accompanied by a rich and suggestive iconography. • The material is revised and supplemented with the latest cutting-edge information for this specialization. • Each lecture presents the educational objectives at the beginning and the end, summarizing the presented notions.
2. Notions of legislation in transfusion medicine. - Romanian legislation about blood transfusion		2	
3. Blood group systems. - ABO, Rh, Kell-Cellano, Kidd, Duffy – MNSs, etc, - genetics of blood groups		2	
4. Immunological basis of transfusional therapy - antibody-antigen reaction - alloimmunisation and autoimmunity		2	
5. Transfusion immunology: Leukocytes. - antigens, - antibodies, - HLA system.		2	
6. Transfusion immunology: Platelets. - antigens, - antigens, - antibodies. -		2	
7. Blood components and blood products. - red cell concentrates - platelet concentrates - fresh frozen plasma		2	
8. Indications for transfusion therapy. - optimal use of blood and blood components: indications and risks		2	
9. Compatibility rules. - compatibility in ABO, Rh, Kell system -		2	
10. Immunological complications of blood transfusion. - diagnosis - prevention, - prevention of wrong blood transfusions		2	
11. Non - immunological complications of blood transfusion. - diagnosis,		2	

- investigations,			
12. Traceability of blood, from the donor to the recipient patient. - blood collection from volunteer donors/ autologous transfusion - testing - processing.		2	
13. Traceability of blood, from the donor to the receiving patient. - storage of blood components, - transportation of blood components, - administration of blood components.		2	
14. Haemovigilance. - Transfusion safety from donor to patient, reporting schemes. - Testing of blood components (hematology, biochemistry, serology) -		2	

Mandatory references:

1. Adam Feather, David Randall, Mona Waterhouse: **Kumar and Clark's Clinical medicine**, 10th Edition, Elsevier, 2021
2. A. Victor Hoffbrand, David P. Steensma: **Hoffbrand's Essential Haematology**, 8th Edition, Wiley-Blackwell, 2019

Optional references:

Guide to the preparation, use and quality assurance of blood, 20th edition. EDQM, 2020

8.2 Seminars/ Laboratory/practical activity/ projects	Teaching method	Number of hours	Notification
1. Notions of ethics in transfusion medicine. - concepts of ethics	LECTURES+ DEBATE PRESENTATIONS	2	<ul style="list-style-type: none"> • Oral lecture delivered using Powerpoint presentations. • Presentation of the paraclinical investigation methods (laboratory tests and functional explorations) in the form of tables, diagrams • Indications, contraindications, methodology and interpretation of the results of various current functional exploration techniques • Presentation of typical examples
2. Notions of legislation in transfusion medicine. - Romanian legislation about blood transfusion		2	
3. Blood group systems. - ABO, Rh, Kell-Cellano, Kidd, Duffy – MNSs, etc, - genetics of blood groups		2	
4. Immunological basis of transfusional therapy - antibody-antigen reaction - alloimmunisation and autoimmunity		2	
5. Transfusion immunology: Leukocytes. - antigens, - antibodies, - HLA system.		2	
6. Transfusion immunology: Platelets. - antigens, - antigens,		2	

- antibodies. -			of laboratory bulletins and interactive
7. Blood components and blood products. - red cell concentrates - platelet concentrates - fresh frozen plasma		2	
8. Indications for transfusion therapy. - optimal use of blood and blood components: indications and risks		2	
9. Compatibility rules. - compatibility in ABO, Rh, Kell system -		2	
10. Immunological complications of blood transfusion. - diagnosis - prevention, - prevention of wrong blood transfusions		2	
11. Non - immunological complications of blood transfusion. - diagnosis, - investigations,		2	
12. Traceability of blood, from the donor to the recipient patient. - blood collection from volunteer donors/ autologous transfusion - testing - processing.		2	
13. Traceability of blood, from the donor to the receiving patient. - storage of blood components, - transportation of blood components, - administration of blood components.		2	
14. Haemovigilance. - Transfusion safety from donor to patient, reporting schemes. - Testing of blood components (hematology, biochemistry, serology) -		2	
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9. Correlations between the content of the course and the requirements of the professional field and relevant employers

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10. Assessment

Activity	10.1 Assessment criteries	10.2 Assessment methods	10.3 Percentage of the final grade
10.4 Course	<p><i>Knowledge for grade 5</i> minimum 60% of the maximum score</p> <p><i>Knowledge for grade 10</i> 95% - 100% of the maximum score</p>	<p>Content rating: Multiple choice test of course material</p> <p>Final evaluation : Multiple choice test with 50 questions with residency exam type correction</p>	50%
10.5 Practical activity/ seminar	<p><i>Knowledge for grade 5</i> Knowledge about: - <i>ABO, Rh, Kell blood group systems</i> - <i>blood components:</i> - <i>indications for transfusion therapy</i> - <i>compatibility rules</i></p>	Final evaluation: practical exam	50%
10.6 Minimum performance standard-basic knowledge			
<p>Skills gained by students:</p> <p>Knowledge and understanding of blood group systems;</p> <p>Knowledge about different blood components;</p> <p>Understanding and applying transfusion compatibility rules;</p> <p>Interpretation of specific transfusional tests: screening for atypical antibodies, blood grouping, crossmatching</p> <p>Clinical indications for blood transfusion;</p> <p>Ordering and monitoring the blood transfusion;</p> <p>Prevention and diagnosis of the post-transfusional complications.</p> <p>Management of post-transfusional adverse events.</p>			

Date 13.04.2023	Signature of the course holder Associated Professor Dr. Lighezan Rodica	Signature of the laboratory/seminar holder Associated Professor Dr. Lighezan Rodica
Signature of the Head of Discipline Conf. Dr. Ionita Ioana		
Date of approval in the Department	Signature of the Head of Department Prof. Dr. Pauncu Elena	

