



Syllabus 2018/2019														
Description of the course														
Module/Course	CLINICAL IMMUNOLOGY										Group of detailed education results			
											Group code C+E	Group name Pre-clinical course+Clinical Nontreatment Course		
Faculty	Medicine													
Major	medicine													
Specialties	Not applicable													
Level of studies	Uniform magister studies X * 1 <sup>st</sup> degree studies <input type="checkbox"/> 2 <sup>nd</sup> degree studies <input type="checkbox"/> 3 <sup>rd</sup> degree studies <input type="checkbox"/> postgraduate studies <input type="checkbox"/>													
Form of studies	X full-time X part-time													
Year of studies											Semester	<input type="checkbox"/> Winter x Summer		
Type of course	x obligatory <input type="checkbox"/> limited choice <input type="checkbox"/> free choice / elective													
Course	<input type="checkbox"/> majorx basic													
Language of instruction	<input type="checkbox"/> Polish X English <input type="checkbox"/> other													
* mark <input type="checkbox"/> with an X														
Number of hours														
Form of education														
Unit teaching the course	Lectures (L)	Seminars (SE)	Auditorium classes (AC)	Major Classes – not clinical (MC)	Clinical Classes (CC)	Laboratory Classes (LC)	Classes in Simulated Conditions (CSC)	Practical Classes with Patient (PCP)	Specialist Classes – magister studies (SCM)	Foreign language Course (FLC)	Physical Education obligatory (PE)	Vocational Practice (VP)	Self-Study (Student's own work)	E-learning (EL)
<b>Winter Semester</b>														
Department of Clinical Immunology														
<b>Summer Semester</b>														
Department of Clinical Immunology	20	6		44										
<b>TOTAL per year:</b>														



Department of Clinical Immunology	20	6	44										

Educational objectives (max. 6 items)

**C1.** Understanding of the immune system development, components of the immune response, specific and nonspecific humoral and cellular immunity, major histocompatibility complex, the immune response regulation.

**C2.** Understanding the different types of hypersensitivity reactions and mechanisms of hypersensitivity-mediated diseases (allergic diseases, autoimmune diseases)

**C3.** Understanding the basics of neoplasm immunity and the immune aspects of transplantation and principles of donor and recipient selection.

**C4.** Understanding the primary and secondary immune deficiencies.

**C5.** Introduction to the immune-mediated diseases diagnostics (immunodeficiency, allergic diseases, autoimmune diseases, immune malignancies), developing skills in interpreting laboratory findings.

**C6.** Understanding the principles and forms of immunotherapy. Developing the skills to use knowledge of the regulation of the immune response.

Education result matrix for module/course in relation to verification methods of the intended education result and the type of class

Number of course education result	Number of major education result	Student who completes the module/course knows/is able to	Methods of verification of intended education results (forming and summarizing)	Form of didactic class <i>**enter the abbreviation</i>
<b>K01</b>	<b>C.W20.</b>	Describes the development and the role of individual components of the immune system. Clarifies the regulation of the immune response. Characterizes the specific and non-specific mechanisms of humoral and cellular immunity.	Oral answer Colloquium Written exam – a test	L,MC
<b>K02</b>	<b>C.W21.</b>	Explains the role and mechanism of action of the major histocompatibility complex.	Oral answer Colloquium Written exam – a test	L,MC
<b>K03</b>	<b>C.W22.</b>	Characterizes various types of hypersensitivity reactions and explains the pathomechanisms of diseases of hypersensitivity. Describes the pathogenesis of primary and secondary immunodeficiencies. Explains the mechanisms of immunomodulation.	Oral answer Colloquium Oral presentation Written exam – a test	L,MC,SE
<b>K04</b>	<b>C.W23.</b>	Characterizes by basic concepts of tumor immunology	Oral answer Colloquium Oral presentation Written exam – a test	L,MC,SE
<b>K05</b>	<b>C.W24.</b>	Describes basic definitions of transplantation immunology. Explains basics of donor-recipient matching.	Oral answer Colloquium Written exam – a test	L,MC,SE
<b>K06</b>	<b>C.W41.</b>	Clarifies the regulation of the immune response in allergic diseases, autoimmune and	Oral answer Colloquium	L,MC,SE



		proliferative diseases of the immune system. Characterizes different forms of immunotherapy.	Oral presentation Written exam – a test	
<b>S01</b>	<b>C.U8.</b>	Selects appropriate diagnostic methods for the detection of immunodeficiency, allergic diseases, autoimmune and proliferative diseases of the immune system.	Observe preformation of the tests, perform selected test on its own, interpret results on its own	L,MC,SE
<b>S02</b>	<b>C.U11.</b>	Differentiate symptoms of immunocompromise. Correctly interprets the results of diagnostic studies evaluating the immune system.	Knows examples of possible clinical symptoms, interpret results with respect to clinical anamnesis on its own	L,MC,SE
<b>S03</b>	<b>C.U12.</b>	Properly analyzes clinical cases concerning disturbances in the immune system.	Analyse clinical cases on its own during classes.	MC,SE
<b>S04</b>	<b>E.U24</b>	Interprets laboratory tests concerning immune system. Pinpoint reasons of immune deviations	Observe preformation of the tests, perform selected test on its own, can interpret results on its own	MC
<b>S05</b>	<b>E.U30</b>	Assists during test performance, is able to perform basic skin prick tests and interprets results.	Performs SPT tests on its own, can interpret results on its own	MC

\*\* L - lecture; SE - seminar; AC – auditorium classes; MC – major classes (non-clinical); CC – clinical classes; LC – laboratory classes; SCM – specialist classes (magister studies); CSC – classes in simulated conditions; FLC – foreign language course; PCP practical classes with patient; PE – physical education (obligatory); VP – vocational practice; SS – self-study, EL – E-learning .

Please mark on scale 1-5 how the above effects place your classes in the following categories:

communication of knowledge, skills or forming attitudes:

Knowledge:5

Skills: 4

Student's amount of work (balance of ECTS points)

Student's workload (class participation, activity, preparation, etc.)	Student Workload (h)
1. Contact hours:	70
2. Student's own work (self-study):	107,8
Total student's workload	177,8
ECTS points for module/course	6
Comments	

Content of classes (please enter topic words of specific classes divided into their didactic form and remember how it is translated to intended educational effects)

**Lectures (10 meetings, duration: 2h each)**

1. General information on the subject – Immunology. The human immune system – characteristics of the immune response cells.
2. Nonspecific cellular and humoral immunity.
3. Specific (adaptive) immune response. The major histocompatibility complex - HLA.
4. The anti-infectious response. Vaccines.
5. The mechanisms of the immune response regulation. The role of cytokines.
6. Primary and secondary immune deficiencies.
7. Hypersensitivity type I, II, III and IV. The immune tolerance.
8. Mechanisms of autoimmune diseases.



9. The basics of tumor immunity. 10. The basics of transplant immunity.
Seminars (2 meetings, duration: 3h each) 1. Tumour immunity. Diagnostics and monitoring of the proliferative disease treatment. 2. Immune therapies in allergic, autoimmune and neoplastic diseases.
Practical classes (10 meetings, duration: 4h each) 1. Introduction to the immunology. The structure and basics of the immune system functioning. Possibilities of the immune parameters assessment. 2. Cellular immunity – the phenotype assessment. 3. Cellular immunity – the function assessment. 4. Humoral immunity – antibodies, the complement system, cytokines assessment. 5. Immune deficiencies. Diagnostics of primary and secondary immune deficiencies. 6. Hypersensitivity. Gell and Coombs classification. Allergic reactions. Allergy diagnostics. 7. Hypersensitivity – autoaggression. Detection of organ-specific and organ-non-specific autoantibodies. 8. Immune aspects of the respiratory and the digestive tract diseases. 9. Immune aspects of the circulatory and the nervous system diseases. 10. Immunohematology – selected aspects. Immune aspects of transplantation. <b>2 meetings-duration 2h each (13<sup>th</sup> and 14<sup>th</sup> week of the semester)</b> 1. Re-take classes 2. Credit Colloquium
Other none
Basic literature (list according to importance, no more than 3 items) 1. K. Abbas, A. H. Lichtman, S. Pillai : „Basic Immunology. Functions and disorders of the immune system”. Elsevier Saunders, 2011. 2. K. Abbas, A. H. Lichtman, S. Pillai : „Cellular and Molecular Immunology”, 6th Edition, Elsevier, 2012. 3. Peakman M., Vergani D.: “Basic and Clinical Immunology”. Second edition. Elsevier – Churchill Livingstone, 2009 Nature reviews. Immunology. Nature New York, London
Additional literature and other materials (no more than 3 items) 1. K Immunology, 8th Edition, Elsevier, 2013 Authors: David Male, Jonathan Brostoff, David Roth & Ivan Roitt 2. Allergy: European Journal of Allergy and Clinical Immunology. Wiley Blackwell Journal of Allergy and Clinical Immunology. Elsevier.
Didactic resources requirements (e.g. laboratory, multimedia projector, other...) - multimedia projector, computers, boards, pointers. Laboratory, centrifuges, Light microscopes, fluorescent microscopes, lab dishes, lymphocyte isolation kits, surface antigen staining kits, autoantibody detection kits, immunohistochemistry kits, lab consumables.
Preliminary conditions (minimum requirements to be met by the student before starting the module/course) Credited courses: Anatomy, Histology with Cytology, Physiology (years I and II) on the level of 3 <sup>rd</sup> year ED students requirements.
Conditions to receive credit for the course (specify the form, criteria and conditions of receiving credit for classes included in the module/course, admission terms to final theoretical or practical examination, its form and requirements to be met by the student to pass it and criteria for specific grades). Each absence must be made up, including rector’s days or dean’s hours.



The student knowledge will be verified systematically with following activities: oral answers during classes, referred to the previous class topic. Three mid-term tests (single-choice, nine questions, six correctly answered to pass), Student may collect up to 27 points from all mid-term tests. Not credited oral answers and/or mid-term tests require subsequent crediting during office consultation hours. 2 seminars – topics to be prepared in groups and presented during the seminars. Credit colloquium (single choice, thirty questions, eighteen positive answers to pass – 60%). The requirements to take the colloquium: class and seminars presence, properly executed practical exercises, credited mid-term tests, credited seminar presentations. During seminars entitle to take the final credit colloquium. The student gained knowledge is verified with the final credit colloquium note - a test of 30 questions with single choice option; threshold for credit - over 60% of correct answers (18/30 points). Student that will obtain minimum 23 points from mid-term tests need not to write a final test. Positive completion of all forms of activities enables the approach to the course final exam: a written theoretical single-choice, 50 questions tests.

Questions check the student knowledge of facts and understanding of phenomena related to the development, operation and regulation of the immune system, as well as the knowledge of disorders of the immune system and the ability to plan and interpret laboratory tests in relation to a specific pathology.

In case of absence crediting is possible during consultation hours. In case of rector's/dean's hours/days students are obliged to prepare presentations (4-6 person groups) on specified topic.

<b>Grade:</b>	<b>Criteria for course</b>
Very Good (5.0)	26-27 points from 3 mid-term tests/or 29-30 points from final test
Good Plus (4.5)	23-25 points from 3 mid-term tests/or 27-28 points from final test
Good (4.0)	25-26 points from final test
Satisfactory Plus (3.5)	22-24 points from final test
Satisfactory (3.0)	18-21 points from final test
<b>Grade:</b>	<b>Criteria for exam (if applicable)</b>
Very Good (5.0)	94-100% 47-50 points
Good Plus (4.5)	86-92% 43-46 points
Good (4.0)	78-84% 39-42 points
Satisfactory Plus (3.5)	70-76% 35-38 points
Satisfactory (3.0)	60-68% 30-34 points

<b>Name of unit teaching course:</b>	Departament of Clinical Immunology
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Person responsible for course:	Prof. Marek Jutel, MD
Phone	tel. 71 784 17 40, faks 71 784 04 17
E-mail	marek.jutel@umed.wroc.pl

List of persons conducting specific classes:	degree/scientific or professional title	Discipline	Performer profession	Form of classes
Marek Jutel	Prof. Dr hab.	Medicine	Director	L
Pawel Gajdanowicz	Dr	Medical biology	Adjunct	L,MC,SE
Ewa Sobańska	Dr	Medical biology	Adjunct	L,MC,SE
Ewa Wyrodek	Dr inż.	Medical biology	Lecturer	L,MC,SE
Anna Kosowska	MD	Medicine	Assistant	MC,SE
Justyna Czeladzka	MD	Medicine	Ph.D. student	MC,SE
Dries Van Elst	master	Medical biology	Ph.D. student	MC,SE

Date of Syllabus development

26,06,2018

Syllabus developed by

Dr Paweł Gajdanowicz  
Course Coordinator for the ED Students  
Department of Clinical Immunology

Signature of Head of teaching unit

Signature of Faculty Dean

Wrocław Medical University  
FACULTY OF MEDICINE  
VICE-DEAN FOR STUDIES IN ENGLISH

Prof. Andrzej Hendrich, PhD

Uniwersytet Medyczny we Wrocławiu  
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prof. dr hab. med. Marek Jutel