



TOTAL per year: 70													
Department of Clinical Immunology	20	6		44									
<p>Educational objectives (max. 6 items)</p> <p>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.</p> <p>C2. Understanding the different types of hypersensitivity reactions and mechanisms of hypersensitivity-mediated diseases (allergic diseases, autoimmune diseases)</p> <p>C3. Understanding the basics of neoplasm immunity and the immune aspects of transplantation and principles of donor and recipient selection.</p> <p>C4. Understanding the primary and secondary immune deficiencies.</p> <p>C5. Introduction to the immune-mediated diseases diagnostics (immunodeficiency, allergic diseases, autoimmune diseases, immune malignancies), developing skills in interpreting laboratory findings.</p> <p>C6. Understanding the principles and forms of immunotherapy. Developing the skills to use knowledge of the regulation of the immune response.</p>													
<p>Education result matrix for module/course in relation to verification methods of the intended education result and the type of class</p>													
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 summarising)			Form of didactic class <i>**enter the abbreviation</i>					
W01	C.W20.	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					
W02	C.W21.	Explains the role and mechanism of action of the major histocompatibility complex.			Oral answer Colloquium Written exam – a test			L,MC					
W03	C.W22.	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					
W04	C.W23.	Characterizes by basic concepts of tumor immunology			Oral answer Colloquium Oral presentation Written exam – a test			L,MC,SE					
W05	C.W24.	Describes basic definitions of transplantation immunology. Explains basics of donor-recipient			Oral answer Colloquium Written exam – a test			L,MC,SE					



		matching.		
W06	C.W41.	Clarifies the regulation of the immune response in allergic diseases, autoimmune and proliferative diseases of the immune system. Characterizes different forms of immunotherapy.	Oral answer Colloquium Oral presentation Written exam – a test	L,MC,SE
U01	C.U8.	Selects appropriate diagnostic methods for the detection of immunodeficiency, allergic diseases, autoimmune and proliferative diseases of the immune system.	Oral answer Colloquium Oral presentation Written exam – a test	L,MC,SE
U02	C.U11.	Differentiate symptoms of immunocompromise. Correctly interprets the results of diagnostic studies evaluating the immune system.	Oral answer Colloquium Oral presentation Written exam – a test	L,MC,SE
U03	C.U12.	Properly analyzes clinical cases concerning disturbances in the immune system.	Oral answer Colloquium Oral presentation Written exam – a test	MC,SE
U04	E.U24	Interpretes laboratory tests concerning immune system. Pinpoints reasons of deviations	Oral answer Colloquium Written exam – a test	MC
U05	E.U30	Assists during test performance, is able to perform basic skin prick tests and interpretes results.	Oral answer	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

Social competences: 4

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

Student's workload	Student Workload (h)
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(class participation, activity, preparation, etc.)

1. Contact hours:

70

2. Student's own work (self-study):

107,8

Total student's workload

178,8

ECTS points for module/course

6,5

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, 6th and 12th week of semester)

1. Tumor 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.

2 meetings-duration 2h each (13th and 14th week of the semester)

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
3. 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 3rd year ED students requirements.

Conditions to receive credit for the course (specify the form 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)

The student knowledge will be verified systematically with following activities:

1. oral answers during classes, referred to the previous class topic,
2. 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.
3. 2 seminars – topics to be prepared in groups and presented during the seminars.
4. 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. Student that will obtain minimum 23 points from mid-term tests need not to write a final test.
5. Positive completion of all forms of activities enables the approach to the course final exam: a written single-choice, 60 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

Grade:	Criteria (only for courses/modules ending with an examination)
Very Good (5.0)	Positive answers 95%-100% (57-60 points)
Good Plus (4.5)	86,36%-93,3% (52-56 points)
Good (4.0)	78,3%-85% (47-51 points)
Satisfactory Plus (3.5)	70%-76.6% (42-46 points)
Satisfactory (3.0)	61,6%-68,3% (37-41 points)

Name and address of module/course teaching unit, contact: telephone and e-mail address

Chair of Clinical Immunology

50-368 Wrocław, ul. Chałubińskiego 5

e-mail: agnieszka.czerniawska@umed.wroc.pl

tel. 71 784 17 40, faks 71 784 04 17

Coordinator / Person responsible for module/course, contact: telephone and e-mail address

Prof. Marek Jutel, MD, marek.jutel@umed.wroc.pl, tel. 717841740

List of persons conducting specific classes: full name, degree/scientific or professional title, discipline, performed profession, form of classes.

- Marek Jutel, prof. , MD, PhD – head of dept., alergologist, clinical immunologist/lectures
- Paweł Gajdanowicz, PhD – didactic supervisor, biotechnology, immunology/ lectures, classes, seminars
- Justyna Czeladzka, MD - PhD student/ classes, seminars,
- Sylwia Smolińska, PhD – adiunkt, biotechnology, immunology/classes, seminars
- Ewa Sobańska, PhD – adiunkt, diagnostics/lectures, classes, seminars
- Ewa Wyrodek, M Sc –lecturer, biotechnology, immunology/ lectures, classes, seminars
- Anna Kosowska MD-PhD student/classes, seminars
- Dries van Elst, MsC-PhD student/classes, seminars
- Justyna Maciejczek, MD, PhD student, classes/ seminars


Date of Syllabus development

24.05.2017

Syllabus developed by

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

Signature of Faculty Dean


.....
prof. dr hab. Andrzej Handrich

Signature of Head of teaching unit

Uniwersytet Medyczny we Wrocławiu
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kierownik

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prof. dr hab. med. Marek Jutel