Chair of Clinical Immunology
Department of immunology
Poznan University of Medical Science

2016/2017

BASIC AND CLINICAL IMMUNOLOGY COURSE

FOUR YEAR MD PROGRAM, SECOND YEAR

DETAILED PROGRAM

Address:
Department of Immunology
ul. Rokietnicka 5D
61-806 Poznań
Tel. +48-61-8547174 or -79
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Website: http://www.immuno.ump.edu.pl/

Course coordinator: Prof. Jan Żeromski, M.D., Ph.D.
contact: jzeromski@ump.edu.pl
Co-coordinators: dr Renata Jenek

Teachers:
Prof. Jan Żeromski, M.D., Ph.D.
Prof. Jan Sikora, Ph.D.
Assoc. prof. Grzegorz Dworacki, M.D., Ph.D.
Kosma Woliński, MD
Anna Olewicz-Gawlik, M.D., Ph.D.
Mariusz Kaczmrek, Ph.D.
Maciej Majcherek, M.D.
Małgorzata Łagiedo, M.Sc.
Bartosz Brzezicha M.Sc.
Mateusz Madejczyk, M.D., Ph.D.
Alicja Kalinowska-Łyszczarz, M.D., Ph.D.
Assoc. prof. Małgorzata Szczepańska, M.D., Ph.D.

Recommended books: (newest editions):

1. Chapel: Essentials of Clinical Immunology. Blackwell. (Clinical Immunology)
2. Żeromski ed.: Introduction to Clinical Immunology. Poznan University Press 2009 (Basic, Laboratory, Clinical Immunolgy)
3. Abbas, Lichtman: Basic Immunology. Sauders. (Basic Immunology)

Topics and handouts:
The main topics are listed below in the course program.
Detailed topics can be found in corresponding chapters of the "**Introduction to Clinical Immunology**" textbook.

4-year M.D program, 2nd year, 2016/2017
Regulations of The Immunology Course

The course encompasses lectures (22 hrs), basic and laboratory classes (10 hrs) and seminars on clinical immunology (28 hrs).

A. Lectures

They cover up-to-date knowledge of basic and clinical immunology indispensable to understand practicals.
Attendance is not compulsory but highly recommended.
During the lectures students write a midterm test that covers the material covered by so far given lectures.

The test cannot be repeated, and obtained scores by the student will be added to the total sum achieved at final examination. Absence from the test results in obtaining no points.

B. Basic and laboratory immunology

The classes are devoted to introduce immunologic diagnostic methods, five days, two hours daily.
Participation in all practicals is obligatory.

In case of absence on one day student should be prepared to answer for oral questions from this subject to the involved assistant. Absence from two or more practicals excludes the student from course.

Practicals end with a test that covers the activities of five days.

The test cannot be repeated, and obtained scores by the student will be added to the total sum reached at final examination. Absence from the test results in obtaining no points.

C. Clinical Immunology

Fourteen seminars, two hours daily. They include a short introduction to daily topic, presentation of clinical cases and laboratory data of given disease, discussion and conclusion of diagnosis. Students must be previously prepared for these classes. It is assumed that students will actively contribute in the presentation and discussion of these topics.

Participation in all 14 seminars is obligatory. In case of absence on one day student should be prepared to answer for oral questions from this subject to the involved assistant. Absence from 2 or more days requires repetition of the whole course in the next academic year.

General

- The attendance must be confirmed by the assistant or student's signature on the attendance list. Students who exceed allowed absences will not be allowed to the final test and will be reported to the Dean's Office.
- Any unjustified delay from the class above 10 minutes will be considered as an absence.
- The results of the final exam will be announced on the website of the department and reported to the Dean's Office.
- Cheating or other kind of order disturbance on the exam may result in dismissing of the student and will be reported to the Dean's Office.
- Any issues that are not mentioned in these regulations are subjected to the General Regulations of the University

The final test covers the whole information obtained during the course i.e. lectures and practicals. It consists of 100 multiple choice written test questions.

In the final evaluation scores from the midterm, practicals' and final tests will be added to form a total pool of 140 points, out of this, at least 60% (84 points) score is needed to pass the examination and get a credit.

If the student doesn't attend the final test or fail to obtain enough points, then this will count as failed 1st chance and will be noted in the index as unsatisfactory (2.0) mark.

Second and third chances of the final test will consist of 100 questions. Scores of previous tests will not count. In order to pass the student should answer correctly at least 60 questions.

Failure on three chances will disqualify the student from the course. This will result in the necessity of repeating the course on the next academic year after the assent of the Dean.

4-year program, 2nd year, 2016/2017 - Lectures

L1: .Jan Żeromski, 27.09.2016 Tue 16^{00}-17^{30} Coll. Anatomicum. Różyckiego Hall

The immune system: adaptive vs. innate immunity, features of innate and adaptive immune system, acute phase proteins, complement system, pattern recognition, cytokines, structures and cells involved, development of immune system, evolution of immunity – basic facts, Novel approaches in studying immunology.

L2: Jan Żeromski, 03.10.2016 Mon 16^{00}-17^{30} Coll. Anatomicum. Hoyer's Lecture Hall

Antigen (Ag) and its recognition: Ag structure, haptens, Ag receptor molecules, Ag processing, presentation and recognition by B and T cells, superantigens, heat shock proteins.

L3: Jan Żeromski, 11.10.2016 Tue 11^{00}-12^{30} Coll. Stom A205

Monoclonal antibodies. CD classification. Cells involved in the immune response, cell migration and homing, the generation of diversity: different cell types and their co-operation, cell activation, the role of cytokines and cell adhesion molecules, antibody and immunoglobulin variability, L and H chain gene recombination, genes and structure of cell antigen receptor.

L4: Jan Żeromski, 18.10.2016 Tue 11^{00}-12^{30} Coll. Anatomicum. Nencki Lecture Hall

Effector mechanisms of immunity: humoral mechanisms, cell-mediated immune reactions. Activation and effector functions of lymphocytes and macrophages, molecular mechanisms of cytotoxicity, NK cells, cytotoxic mechanisms, the cytokine network.

L5: Jan Żeromski, 25.10.2016 Tue 11^{00}-13^{30} Coll. Anatomicum. Nencki Lecture Hall

Regulation and manipulation of the immune response: mechanisms, the role of T cells (Treg), NKT cells, telomers, idiotypes, neuroendocrine factors, genetic control, immunomodulation, vaccines).

L6: Jan Żeromski, 08.11.2016 Tue 11^{00}-12^{30} Coll. Anatomicum. Nencki Lecture Hall

Immunology of transplantation: genetics, MHC antigen inheritance and expression, mechanisms of graft rejection and its prevention, kidney transplantation and its types and types of rejection, graft vs. host disease, clinical aspects of transplantation, materno-fetal interactions, perspectives of xenografting.

L7+Midterm test: Jan Żeromski 15.11.2016 Tue 11^{00}-12^{30} . Coll.Stom.A205

Immunology of infection: immunity to viruses, bacteria and fungi, immune aspects of parasitic infections evasion of immune response by pathogens, immunopathology due to infection.

L8+ Jan Żeromski, 22.11.2016 Tue 11^{00}-12^{30} . Coll. Anatomicum. Hoyer's Lecture Hall

Tumor immunology: tumor antigens, anti-tumor immunity, immunological surveillance and immunoediting, tumor microenvironment, escaping immune mechanisms, immunosupression, immunodiagnosis, immunotherapy, gene therapy.

L9: Grzegorz Dworacki, 29.11.2016 Tue 11^{00}-12^{30} Zeylandow Lecture Hall

Hypersensitivity: definition, types and characteristics of four types, diseases associated with hyperseisitivity. Allergy: clinical entities, diagnostic aspects.

L10: Grzegorz Dworacki, 06.12.2016 Tue 11^{00}-12^{30} . Coll. Anatomicum. Nencki Lecture Hall

Immunological tolerance and unresponsiveness: T- and B-cell tolerance, central vs. Peripheral t., manipulation of tolerance, immunologically privileged sites, artificial induction of tolerance, immunological ignorance, significance of tolerance in medicine.

L11: Jan Żeromski, 13.12.2016 Tue 11^{00}-12^{30} Rydygiera Lecture Hall

Immunodeficiencies: primary vs. secondary IDs, ten alarming symptoms of ID, pathomechanisms, classification, B cell -T cell ID, complement deficiencies, defects of phagocytic cells and cell adhesion, chromosomal breakage syndromes, secondary ID, AIDS). Some unsolved problems in immunology.

4-year program, 2nd year, 2016/2017

Basic immunology - Labs (B1-B5)

B1: Humoral immunology – Małgorzata Łagiedo

1. Preview of humoral immunity - immunoglobulins and complement.
2. Introduction to immunological assays.
3. Methods for the assessment of humoral immunity and other proteins present in body fluids – quantitative assays, antibody specificity assays, screening for autoantibodies.

B2: Cellular immunology – Immunophenotype – Jan Sikora

1. Preview of the cellular immunity
2. Biological materials available for examination and principles of sampling
3. Means of cell isolation and methods of assessment
4. Applications in medical practice

B3: Cellular immunology – Mariusz Kaczmarek

1. Preview
2. Functional tests of lymphocytes
3. Evaluation of the function of phagocytic cells (phagocytosis, oxidative burst, migration).
4. Evaluation of the function of lymphocytes
5. In vivo tests
6. Clinical application of cellular functional tests

B4: Detection of proteins and nucleotides in situ

1. Types of tissue samples suitable for the assessment
2. Means of tissue preservation and/or fixations
3. Possibilities of immunological evaluation of tissue sections
4. Molecular methods in situ
5. Examples of applications

B5: Diagnostic immunology – Małgorzata Łagiedo

1. The basic algorithm in diagnosing autoimmune diseases
2. The basic algorithm in diagnosing immune deficiencies
3. Interpretation of obtained results of tests.

Clinical immunology - seminars (C1-C14)

Detailed contents according to the handbook "Introduction to Clinical Immunology" and "Essentials of Clinical Immunology".

Topic		Teacher	Alternative
C1.	Autoimmune connective tissue diseases	G. Dworacki GD	/A. Olewicz AO
C2.	Endocrine specific autoimmunity	K. Wolinski KW	
C3.	Immunohematology	M. Majcherek MMj	/ G. Dworacki GD
C4.	Neuroimmunology	A. Kalinowska-Łyszczarz AŁ	
C5.	Immunology of respiratory tract	M. Majcherek MMj	
C6.	Immunology of gastrointestinal tract	J. Żeromski JŻ	/ J. A.Olewicz AO
C7.	Immunopathology of the kidney	G. Dworacki GD	/ J. Żeromski JŻ
C8.	Immunomodulation and vaccines	A Olewicz AO / M.Majcherek MMj	
C9.	Immunology of reproduction	M. Madejczyk MMd	/ M. Szczepańska MS
C10.	Immunology of cardiovascular disorders	A Olewicz AO /M.Majcherek MMj	
C11.	Allergy	M. Majcherek MMj	
C12.	Lymphoproliferative diseases, immunological approach	J. Żeromski JŻ	/ G. Dworacki JŻ
C13.	Selection and interpretation of immunological assays	G. Dworacki GD	/ M. Majcherek MMj
C14.	Immunopathology of the liver	J. Żeromski JŻ	/ M. Majcherek MMj

4-year program, 2nd year, 2016/2017 - Labs

		Basic immunology topics B1-B5				
Groups	**S1a**	06.10.2016 15 00-16 30 B1 (M .Łagiedo)	13.10.2016 16 30-18 0 B4 (B.Brzezicha)	20.10.2016 13 30-15 00 B3 (M. Kaczmarek)	27.10.2016 13 30-15 00 B2 (J.Sikora)	03.11.2016 13 30-15 00 B5+test (M. Łagiedo)
	S1b	06.10.2016 15 00-16 30 B4 (B. Brzezicha)	13.10.2016 16 30-18 00 B1 (M. Łagiedo)	20.10.2016 13 30-15 00 B2 (J. Sikora)	27.10.2016 13 30-15 00 B3 (M. Kaczmarek)	03.11.2016 13 30-15 00 B5+test (M. Łagiedo)
	S2a	06.10.2016 16 30-18 00 B1 (M.Łagiedo)	10.10.2016 17 00-18 30 B4 (B.Brzezicha)	20.10.2016 15 00-16 30 B3 (M. Kaczmarek)	27.10.2016 15 00-16 30 B2 (J.Sikora)	03.11.2016 15 00-16 30 B5+test (M. Łagiedo)
	S2b	06.10.2016 16 30-18 00 B4 (B. Brzezicha)	10.10.2016 17 00-18 30 B1 (M. Łagiedo)	20.10.2016 15 00-16 30 B2 (J. Sikora)	27.10.2016 15 00-16 30 B3 (M. Kaczmarek)	03.11.2016 15 00-16 30 B5+test (M. Łagiedo)
	S3a	29.09.2016 15 00-16 30 B1 (M..Łagiedo)	11.10.2016 13 30-15 00 B3 (M.Kaczmarek)	18.10.2016 13 30-15 00 B2 (J.Sikora)	25.10.2016 13 30-15 00 B4 (B. Brzezicha)	08.11.2016 13 30-15 00 B5+test (M .Łagiedo)
	S3b	29.09.2016 15 00-16 30 B3 (M. Kaczmarek)	11.10.2016 13 30-15 00 B1 (M. Łagiedo)	18.10.2016 13 30-15 00 B4 (B. Brzezicha)	25.10.2016 13 30-15 00 B2 (J. Sikora)	08.11.2016 13 30-15 00 B5+test (M. Łagiedo)
	S4a	29.09.2016 16 30-18 00 B1 (M .Łagiedo)	11.10.2016 15 00-16 30 B3 (M.Kaczmarek)	18.10.2016 15 00-16 30 B2 (J.Sikora)	25.10.2016 15 00-16 30 B4 (B. Brzezicha)	08.11.2016 15 00-16 30 B5+test (M. Łagiedo)
	S4b	29.09.2016 16 30-18 00 B3 (M. Kaczmarek)	11.10.2016 15 00-16 30 B1 (M. Łagiedo)	18.10.2016 15 00-16 30 B4 (B. Brzezicha)	25.10.2016 15 00-16 30 B2 (J. Sikora)	08.11.2016 15 00-16 30 B5+test (M. Łagiedo)

Place: Dept. of Immunology, ul. Rokietnicka 5D, 1st floor, room A (B2, B3, B5), room B (B1, B3)

4-year program, 2nd year, 2016/2017 - Seminars

	S1	S2	S3	S4
Topics C1-C14	09.11.2016 14^{15}-15^{45} Fr. C1 GD ZI.	09.11.2016 14^{15}-15^{45} C2 KW Coll.Wrzoska408	10.11.2016 15^{00}-16^{30} wed. C1 GD ZI	10.11.2016 10^{00}-11^{30} C2 KW Coll.Anat.15
	18.11.2016 12^{00}-13^{30} C2 KW Coll.Stom.210	18.11.2016 12^{00}-13^{30} C8 AO ZI	18.11.2016 13^{30}-15^{00} C2 KW Coll.Stom.212	18.11.2016 13^{30}-15^{00} C8 AO ZI
	25.11.2016 13^{30}-15^{00} C3 MMj Coll.Stom.212	25.11.2016 13^{30}-15^{00} C1 GD ZI	25.11.2016 15^{00}-16^{30} C3 MMj Coll.Stom.212	25.11.2016 15^{00}-16^{30} C1 GD ZI
	02.12.2016 13^{30}-15^{00} C7 GD ZI	02.12.2016 13^{30}-15^{00} C3 MMj Coll.Chmiela106.	02.12.2016 15^{00}-16^{30} C7 GD ZI	02.12.2016 15^{00}-16^{30} C3 MMj Coll.Chmiela106.
	09.12.2016 13^{30}-15^{00} C8 AO ZI	09.12.2016 13^{30}-15^{00} C4 AŁ Coll.Stom.210	09.12.2016 15^{00}-16^{30} C8 AO ZI	09.12.2016 15^{00}-16^{30} C4 AŁ Coll.Stom.211
	16.12.2016 13^{00}-14^{30} C5 MMj Coll.Chmiela 109	16.12.2016 13^{00}-14^{30} C6 JŻ Coll.Stom.205	16.12.2016 14^{30}-16^{00} C5 MMj Coll.Chmiela 109	16.12.2016 14^{30}-16^{00} C6 JŻ Coll.Stom.205
	09.01.2017 14^{00}-15^{30} C6 JŻ Stom.211	09.01.2017 14^{00}-15^{30} C5 MMj Stom.210	09.01.2017 16^{00}-17^{30} C6 JŻ Stom. 211	09.01.2017 16^{00}-17^{30} C5 MMj Coll.Chmiela105
	12.01.2017 13^{30}-15^{00} C4 AŁ C.Anat. Nencki	12.01.2017 13^{30}-15^{00} C7 GD ZI	12.01.2017 15^{00}-16^{30} C4 AŁ C.Anat. Nencki	12.01.2017 16^{00}-17^{30} C7 GD ZI
	13.01.2017 $13^{30}15^{00}$ C12 JŻ ZI	13.01.2017 $13^{30}15^{00}$ C10 AO Coll.Stom.212	13.01.2017 15^{30}-17^{00} C12 JŻ ZI	13.01.2017 15^{30}-17^{00} C10 AO Coll.Anat.15
	19.01.2017 $13^{30}15^{00}$ C10 AO Coll.Chmiela107	19.01.2017 $13^{30}15^{00}$ C9 MMd Coll.Anat 15	19.01.2017 15^{00}-16^{30} C10 AO Coll.Chmiela107	19.01.2017 15^{00}-16^{30} C9 MMd Coll.Anat. 15
	20.01.2017 13^{30}-15^{00} C11 MMj Coll.Anat. 15	20.01.2017 13^{30}-15^{00} C12 JŻ Coll.Stom.210	20.01.2017 15^{00}-16^{30} C11 MMj Coll.Anat.15	20.01.2017 15^{00}-16^{30} C12 JŻ Coll.Stom.205
	26.01.2017 13^{30}-15^{00} C9 MMd Coll.Chmiela107	26.01.2017 13^{30}-15^{00} C11 MMj Coll.Anat.15.	26.01.2017 15^{00}-16^{30} C9 MMd Coll.Chmiela107	26.01.2017 15^{00}-16^{30} C11 MMj Coll.Anat.15
	27.01.2017 13^{30}-15^{00} C13 GD ZI	27.01.2017 13^{30}-15^{00} C14 JŻ Coll.Anat.1	27.01.2017 15^{00}-16^{30} C13 GD ZI	27.01.2017 15^{30}-17^{00} C14 JŻ Anat 1
	02.02.2017 13^{30}-15^{00} C14 JŻ Anat 15	02.02.2017 13^{30}-15^{00} C13GD ZI	02.02.2017 15^{00}-16^{30} C14 JŻ Coll.Anat 15	02.02.2017 15^{00}-16^{30} C13 GD ZI

Anat. ###: Coll. Anatomicum ul. Święcickiego 6,
Chmiel-: Collegium Chmiela ul. Święcickiego 4,
Stom. ### : Collegium Stomatologicum, ul. Bukowska 70
Dept. Imm.: Department Of Immunology, ul. Rokietnicka 5D, seminar room,
Rydg.: Hospital at Przybyszewskiego str., Rydgier's Lecture Hall.

FINAL EXAMINATION

1st take: Will be scheduled later

2nd take: Will be scheduled later

3rd take: Will be scheduled later