ANALITICAL PROGRAM

M.G.2.1.1. Anatomy – embryology

Lecture (60 hours)

1. Functional organization of the cephalic end (2 hours).
2. Morphogenesis of the cephalic end: development of neurocranium (2 hours).
3. Morphogenesis of the cephalic end: development of viscerocranium (2 hours).
4. Functional anatomy of the skull. The structures of resistance of the skull (2 hours).
5. Morphogenesis of pharyngeal apparatus. Derivatives of the pharyngeal pouches and pharyngeal arches. The ventral pharyngeal aria and its derivatives (2 hours).
7. Development and functional organization of the superior digestive system (2 hours).
8. Carotid arterial systems (2 hours).
9. Cephalic venous and lymphatic systems (2 hours).
10. Topographic and applied anatomy of the head (2 hours).
11. Topographic anatomy of the face (2 hours).
12. Applied anatomy of the face (2 hours).
13. Topographic anatomy of the neck (2 hours).
15. Anatomical bases of medical imaging of cephalic end (2 hours).
18. The spinal cord: the white matter. The system of the posterior cord. The system of the anterolateral cord. The associative systems (2 hours).
22. The diencephalon. Functional organization of the thalamic nuclei. The nuclear topography. Connexions of the thalamic motor, raphe, sensorial and sensitive nuclei. The reticular nuclei. The thalamic peduncles (2 hours).
23. The diencephalon. Functional anatomy of hypothalamus, epithalamus, metathalamus. Topography of the hypothalamic nuclei. Classification of the main nuclear structures according
26. The afferent systems. Synaptic and functional organization of the optic and ophthalmic systems (2 hours).
27. The afferent systems. Synaptic and functional organization of the auditory, vestibular and gustatory systems. Anatomical models of cochlear implants (2 hours).
28. The motor systems. The supplementary aria and the genetic program of movement. The efferent system of voluntary movement. The efferent systems of the movements’ control (2 hours).

**Practical lessons (120 hours)**

13. Sublingual and submandibular glands: situation, external shape, relations, blood and nerve supply, dissection. Parotid glands: situation, external shape, relations, blood and nerve supply, dissection. Projection and dissection of the parotid duct (4 hours).
15. Laryngeal cavity, blood and nerve supply. Dissection of trachea and cervical esophagus: limits, situation, external shape, relations, internal shape, structure, blood and nerve supply. (4 hours).
24. Cerebral hemispheres cross-sections: vertical (Charcot), horizontal (Fleshig) and sagital (Yakovlev). Oculomotor nerve: definition, real origin, superficial origin, course, relations,
branches. Trochlear nerve: definition, real origin, superficial origin, course, relations, branches. Abducens nerve: definition, real origin, superficial origin, course, relations, branches. (4 hours).

25. Trigeminal nerve: definition, real origin, superficial origin, course, relations, branches. Facial nerve: definition, real origin, superficial origin, course, relations, branches. (4 hours).

26. Glossopharyngeal nerve: definition, real origin, superficial origin, course, relations, branches. Vagus nerve: definition, real origin, superficial origin, course, relations, branches. (4 hours).


**Subject** Medical Deontology and Bioethics

MG2.1.9 Medical Deontology and Bioethics

Lectures (14 hours)

1. Defining bioethics and its applications. General principles of bioethics (general presentation, advantages/disadvantages). The concept of disease, suffering, patient. The concept of health, the right to health, medical assistance systems. (2 hours)

2. Genetics and bioethics. Liberty of procreation. Genetic testing (during preconception, prenatal, postnatal – ethic implications). Antenatal genetic research; rights of the fetus versus rights of the child. Abortions and procreative artificial methods- ethical acceptance (2 hours)

3. Medical research ethics. Necessity of applying ethical principles in medical research (Nurnberg Code, Helsinki Declaration). Informed consent of recruited subjects for research. International multicentre research: they are maintained and respected in different cultural society (2 hours)

4. The end of the life, euthanasia, assisted suicide. Definitions. Legal aspects. International/multicultural variations of these concepts. (2 hours)

5. Transplant and organs acquirement. Methods, ethical implications of each method (cadaveric organs, not relative/relative live donors, organs sales). Death definitions and its appliance in transplant with cadaveric organs. (2 hours)

6. Therapeutical relationships. Hypocrate’s oath (versions, of present interest), the doctor-patient relationship: power, paternalism, authority or interdependence? Medical errors: definition, types, public perception, costs. (2 hours)

7. Ethical aspects in pediatrics. Consent and involvement of children (teenagers) in therapeutical decisions. Ethical aspects in intensive therapy of children: resuscitation/ stopping the treatment/ resource allocation. Ethical aspects of minorities: ethnic groups and their involvement in the medical act; patients with branded diseases (handicapped people, Aids, venereal diseases etc). (2 hours)

Practice (14 hours)

During the seven seminars, clinical cases will be presented for practical illustration of the lectures. Students will be encouraged to identify the presented ethical problems, comment upon them and recommend a solution.
University of Medicine and Pharmacy „Gr.T.Popă” Iasi  
Faculty of Medicine

Department: Physical education

<table>
<thead>
<tr>
<th>Code</th>
<th>Year of study</th>
<th>Numbers of theoretics / practical course</th>
<th>Examination</th>
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<tr>
<td>MG 1.10</td>
<td>II</td>
<td>Total year</td>
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<td>Course Practical Credits</td>
<td>I-st semester</td>
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<td>- 60 2</td>
<td>30 1</td>
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</table>

Code:  
M.G. I 1.10  
Course:  
Physical Education  
Credits:  
2  
Year and semester of Study:  
2nd Year  
Lecturers:  
Assoc. Prof. Marius Bologa  
Assist. Prof. Ciprian Constantin Parasciv  
Course Specifications:  
Practical: 60 h/year  
Total: 60 h/year  
Type of assessment examination cumulated with the practical course.  
AIMS  
Realising the importance of physical exercise in the medical career will lead to a stronger motivation of towards practicing the types of work-out all out their lives. The physical exercise will help the future doctor in better resising to the multiple efforts to which he/she is confronted in his/her profession and will also determine him to recommend the physical exercise and his benefice to his future patients.  
Objectives:  
Theoretical skills:  
The necessity, importance and accesibility of practicing the physical exercise during lifetime; notions of gymnastics and sport games; theoretical knowledge concerning various deficiencies and their correction, notion of somatometrics.  
Practical skills:  
The development of the aesthetic taste: coordonation and rhythm in a movement; the achievement of high indices of the elementary abilities and motion abilities which are necessary to the doctors.  
Description:  
- Development of speed, force, resistance and ability – 15 h  
- Improvement of the elementary motion abilities – 4 h  
- Rhythm and coordonation through gymnastics combined with music – 10 h  
- With music – 10 h  
- Mobility through stretching – 7 h  
- Basic elements in games – 13 h  
- Notions concerning body deficiencies and the importance and role of physical exercise in their correction – 4 h  
- The role of static exercise in strenghtening the muscles – 3 h  
- Notions of somatometrics and body mass indices – 2 h  
- Improving the main functions of the body during effort – 2 h  
Bibliography:  
Filipescu, D., Gherghisan, D., Bologa, M., 2001 – Physical Education in the Medical Higher Education, UMF, Iasi  
Filipescu, D., 1995 – Course of Kinetic Therapy, UMF, Iasi
ANALYTICAL PROGRAM OF PHYSIOLOGY
II-ND YEAR

I. Cardiovascular physiology
A. Cardiac Physiology
   1. Morpho-functional characteristics of the myocardium
   2. Metabolism of the heart
   3. Fundamental properties of the heart muscle
   4. Cardiac cycle
   5. Mechanical manifestations of the cardiac cycle
   6. Acoustic manifestations of the cardiac cycle
   7. Electrical manifestations of the cardiac cycle
   8. Heart output
   9. External work of the heart
   10. Regulation of cardiac activity
B. Hemodynamics notions
   1. Morpho-functional characteristics of the arteries
   2. Functional properties of the arteries
   3. Arterial pressure
   4. Arterial pulse
   5. Morphological and functional characteristics of the venous system
   6. Properties of the veins
   7. Venous hemodynamics
   8. Jugulogram
   9. Circulation time
   10. Regulation of the venous circulation
   11. Morpho-functional characteristics of blood capillaries
   12. Capillary hemodynamics
   13. Transcapillary exchange
   14. Regulation of capillary circulation
   15. Lymphatic circulation
   16. Morpho-functional characteristics of the lymphatic system
   17. Role of the lymphatic circulation
   18. Regulation of hemodynamics

II. Physiology of respiration
1. Morpho-functional characteristics of the thoraco-pulmonary system
2. Hemodynamics of pulmonary circulation
3. Alveolo-capillary gas exchange
4. The sanguinic / circulatory component of respiration
5. Tissue respiration
6. Exploration of pulmonary ventilation, perfusion and diffusion
7. Non-respiratory functions of the lungs
8. Regulation of the respiration
III. Physiology of the digestive apparatus
   1. Morphological and functional characteristics of the digestive apparatus
   2. Digestion
      a. Mechanical and physical phenomena along digestion
      b. Chemical transformation of food along digestion
      c. Regulation of the digestive processes
   3. Absorption of the nutrients
   4. Gastrointestinal hormones

IV. Physiology of the endocrine glands
   1. Morpho-functional characteristics of the endocrine glands
      a. The concept of hormone
      b. Synthesis, transport, mechanism of action and inactivation of hormones
      c. Mechanisms of the hormone secretion regulation
      d. Morpho-functional characteristics of the neuro-endocrine transducers
   2. Endocrine role of the hypothalamus
   3. Physiology of adenohypophysis
   4. Physiology of neurohypophysis
   5. Physiology of thyroid gland
   6. Physiology of the parathyroid glands
   7. Physiology of the adreno-cortical glands
   6. Physiology of the adreno-medular glands
   7. Physiology of the gonads
   8. Physiology of endocrine pancreas
   9. Physiology of the epiphysis
   10. Physiology of endocrine thymus

V. Physiology of the central nervous system
   1. Morpho-functional organization of CNS
      a. Reflex center function of the spinal cord
      b. Reflex center function of the medulla oblongata
      c. Reflex center function of the pons
      d. Reflex center function of the mesencephalon
      e. Physiology of the diencephalon
      f. Physiology of the reticular formation
   2. Physiology of the afferent systems
      a. Physiology of mechanoreceptors
      b. Physiology of the visual receptor
      c. Physiology of the auditory receptor
      d. Physiology of the vestibular receptor
      e. Physiology of the olfactory receptor
      f. Physiology of the taste receptor
      g. Physiology of the conduction pathways
      h. Physiology of somatosensory cortical areas
   3. Physiology of the efferent systems
      a. Physiology of the pyramidal system
      b. Physiology of the extrapyramidal system
SUBJECTS
FOR PHYSIOLOGY PRACTICAL CLASSES
II-ND YEAR, I-ST SEMESTER

1. Cardiac physiology; introduction. In situ frog heart: cardiogram, temperature influence
2. Cardiac physiology; excitoconductive system and electrical activity of the heart. Demonstration of cardiac automatism. Stanius ligations.
3. Cardiac physiology; electrical and mechanical activity of the heart; nervous influences. In situ frog heart: extrasystole, influence of vagal stimulation and the escape phenomenon.
4. Cardiac physiology; mechanical activity of the heart; humoral influences. In situ/in vitro frog heart: Frank-Starling law, action of the main extracellular ions, effects of some chemical mediators
5. Cardiac physiology; introduction to electrocardiography. The electrocardiographical method; principles (biopotentials, vectorial theory), technical details (equipment, work conditions, leads), ECG trace components
6. Cardiac physiology; electrocardiography. Electrocardiogram analysis: rhythm study, determination of heart rate, electrical axis, vectorial analysis, morphological analysis
7. Cardiovascular physiology; central mechanical events during the cardiac cycle. Auscultation of heart sounds, phonocardiogram. Apexogram
8. Cardiovascular physiology; peripheral mechanical manifestations during the cardiac cycle. Arterial pulse, sphygmogram. Arterial pressure: measuring and recording methods. Circulation time
10. Cardiovascular physiology; exploration in humans. Radiological, radioisotopic, ecographic methods
12. Respiratory physiology; introduction. Components of the respiratory process; exploratory methods.
14. Respiratory physiology; pulmonary ventilation. Respiratory volumes and flow rates; spirometry, spirography
15. Physiology of circulation and respiration; revision. Semestrial test paper
1. Physiology of digestion. Oral digestion: sampling of saliva; secretory mechanisms; chemical examination of saliva; digestive role and thermolability of the salivary amylase
2. Physiology of digestion. Gastric digestion: gastric juice sampling; secretory mechanisms; HCl and lactic acid evidentiatio, measurement of the gastric juice acidity; action of labferment
3. Physiology of digestion. Intestinal digestion: bile, pancreatic and intestinal juice sampling; secretory mechanisms; determination of the pancreatic amylase. Intestinal digestion: evidentiatio of gastric and intestinal proteolysis products; in vitro intestinal motility
4. Physiology of the liver. Chemical examination of the bile; emulsifying action of the bile
5. Physiology of the endocrine glands. Methods for the study of the function of endocrine glands; radioimunoassay of pituitary hormones. Physiology of the pituitary gland: role of the pituitary in melanogenesis, action of oxitocin upon the uterine smooth muscle
6. Physiology of the endocrine glands. Physiology of the thyroid and parathyroid glands: determination of basal metabolism, the reflexogram
7. Physiology of the endocrine glands. Physiology of gonads and adrenocortical glands: early pregnancy diagnosis, Thorn test
8. Physiology of the somatic effector system. Dinamometry. Cronaximetry
11. Physiology of the central nervous system. Reflex function of the spinal cord; laws of the spinal reflexes
12. Physiology of the central nervous system. Somatic and vegetative reflexes of clinical relevance
13. Physiology of the central nervous system. Electroencephalogram. Evoked cortical potentials
15. Revision
MG2.2.4 Medical Genetics

LECTURES (28 hours)


2. DNA structure and organization inside the cell. DNA – molecular substrate of heredity. DNA structure. Primary and secondary structure of DNA. Particularities of DNA structure in eukaryotes. Nuclear genome. Mitochondrial DNA (2 hours);


7. General data on genetic pathology

• Multifactorial disorders. General characteristics. Pathogeny. Susceptibility genes. Classification. Recurrence risk. Common disorders of adulthood: Coronary disease; Diabetes; Peptic ulcer; HTA; Schizophreny; Obesity;


PRACTICAL LESSONS (56 hours)


3. Sex chromatin: definition; origin; X chromatin in oral mucosae cells; Y chromatin; practical value of sex chromatin study (3 hours).

4. Human chromosomes: methods to obtain chromosomes; identification of human chromosomes; nomenclature; normal polymorphism of human chromosomes (4 hours).


6. Normal hereditary traits. Determinism of normal hereditary traits. Normal monogenic traits: blood groups; seric and enzymatic groups; taste sensitivity; secretory status; tisular groups (HLA); other characters. Polygenic traits: dermatogliphycs. Practical value of normal hereditary traits study (6 hours).


MG2.2.3 Histology

LECTURE (60 hours)

2. Epithelial tissues – general features, classification. Lining epithelia – structure, electron microscopy. Intercellular junctions and specializations of the epithelial cells at the apical pole.
5. Varieties of connective tissue - structure, localizations, functions.
18. Endocrine glands: organization of the endocrine cells. Types of hormones – according to the chemical nature; hormonal receptors. Hypophysis – histogenesis, structure, secretion.

Practical works (60 hours)

THE 1st SEMESTER – 2 HOURS/WEEK

- **Tissues** – definition, histogenesis, cell differentiation
• Epithelia – general features, components, classification
• Connective tissue – general features, components, classification
• Muscular tissue – general features, histogenesis
• Nervous tissue – general features, histogenesis
• Peripheral blood
• The cardiovascular system

THE IInd SEMESTER – 2 HOURS/WEEK
• Immune system
• The endocrine system
• The digestive system
• The respiratory system
• The urinary system
• The female reproductive system
• The male reproductive system
• Skin, mammary gland
COURSE: FUNDAMENTAL IMMUNOLOGY
CREDITS: 5
YEAR and SEMESTER of STUDY: II\textsuperscript{nd} year, semester III or IV
LECTURERS: Dr. Eugen Carasevici - Professor,
Dr. Petru Cianga – Associate Professor
Dr. Florin Zugun – Associate professor
Dr. Irina Florea – Associate Professor
Dr. Carmen Aanei – Assistant Professor
Biol. Lucian Negura – Assistant Professor

COURSE SPECIFICATIONS:
   Lectures: 20 hours
   Practical: 40 hours
   Total: 60 hours
   Type of assessment: written and oral examination

AIMS: To provide information regarding:
- basic mechanisms of the immunologic response
- correlations between the immunologic response and various diseases
- principles and applications of immunologic techniques

OBJECTIVES:
  Theoretical skills:
- outline the defense mechanisms against disease
- describe the humoral and cellular immune responses
- describe the innate immunity (cells and molecules)
- describe and compare molecules within the immunoglobulin superfamily
- describe the hypersensitivity reactions
- describe the concepts of autoimmune processes
- describe the concepts of immunodeficiencies

  Practical skills:
- understand the principles of immunologic techniques and their application in the context of various pathological conditions, blood group identification, rejection reactions in transplantation, tumor identification

COURS DESCRIPTION:
1. Immunology – An introduction in the physiology of the immune system – 1,5 hours
2. Immunogenicity and antigen structure – 1,5 hours
3. Innate Immunity – natural barriers and cells – 1,5 hours
4. Innate immunity – molecules – 1,5 hours
5. B Lymphocytes – 1,5 hours
6. T Lymphocytes and the thymus – 1,5 hours
7. Organs and lymphoid tissues – 1,5 hours
8. Major Histocompatibility Complex – 1,5 hours
9. Antigen processing and presentation – 1,5 hours
10. The activation of T and B lymphocytes –1,5 hours
11. Experimental models for the study of the T cell activation. The functions and the acting mechanisms of the effector lymphocytes (T helper and T cytotoxic) – 1,5 hours
12. The immune response – 1,5 hours
13. The regulation of the immune response – 1,5 hours
14. Cytokines and cytokine receptors – 1,5 hours
15. Hypersensitivities – 1,5 hours
Immunology seminars – Syllabus

1. Immunogenicity. Various animals used in *in vivo* experiments. Outbred animals, inbred animals, congenic animals.
4. The agglutination reaction.
5. The precipitation reaction and techniques based on the precipitation reaction – the precipitation in gel. Simple radial immunodiffusion (Mancini). Double immunodiffusion (Ouchterlony).
9. Immunofluorescence: variants, applications.
10. Immunohistochemistry – Research and clinical applications.
12. Protein identification and DNA sequences by Western blot and Southern blot, respectively.
14. Techniques to evidence the cellular functionality – NK cytotoxicity: applications.
15. Phagocytosis tests and the test of hemolytic plaques (Jerne plaques).
17. Immunologic diagnosis in hematology.
18. Immunologic diagnosis in allergic diseases.
19. Immunologic diagnosis in transplantation.
20. Immunologic diagnosis in oncology.

PREREQUISITES:
Recommended courses: Genetics, Microbiology, Histology

BIBLIOGRAPHY:
- Richard Goldsby, Thomas J. Kindt, Barbara Osborne: Kuby’s Immunology, 5th Edition, 2002;
- David Male, Jonathan Brostoff, David B Roth, Ivan Roitt: Immunology, 7th Edition, 2006;
- Eugen Carasevici, Ingrid Dumitriu, Corina Cianga, Petru Cianga, Florin Zugun-Eloae: Curs Imunologie, 1999
COD
CURS: Imunologie Fundamentală
CREDITE: 5
An si semestru de studiu: anul II, semestrele III sau IV
Cadre de predare: Dr. Eugen Carasevici - Profesor,
Dr. Petru Cianga – Sef de Lucrări,
Dr. Florin Zugun – Sef de Lucrări.
Dr. Irina Florea – Sef de Lucrări
Dr. Carmen Aanei – Asistent
Biolog Lucian Negura - Asistent

Specificatii:
- Cursuri: 20 de ore
- Seminarii: 40 de ore
- Total: 60 de ore
- Tip de examinare: examen scris şi oral

Scopuri: Să furnizeze informaţii legate de:
- Mecanismele fundamentale ale răspunsului imun
- Corelaţiile dintre răspunsul imun şi diferite boli
- Principiile şi aplicaţiile tehnicilor imunologice

OBJECTIVE:

Cunostinte teoretice:
- evidenţierea mecanismelor de apărare împotriva bolii
- descrierea răspunsurilor imune umorale şi celulare
- descrierea imunităţii înnăscute (celule şi molecule)
- descrierea şi compararea moleculelor din superfamilia imunoglobulinelor
- descrierea reacţiilor de hypersensibilitate
- descrierea conceptelor fundamentale ale proceselor autoimune
- descrierea fundamentului imunodeficienţelor

Cunostinte practice:
- înțelegerea principiilor tehnicilor imunologice și aplicarea lor în contextul diverselor afecțiuni, identificarea grupelor sanguine, rejetul grezelor solide, recunoaștere tumorală

DESCRIERE CURS:
1. Imunologie – O introducere în fiziologia sistemului imun – 1,5 ore
2. Imunogenicitate și structura antigenului – 1,5 ore
3. Imunitate înnăscută – bariere naturale și celule – 1,5 ore
4. Imunitate înnăscută – molecule – 1,5 ore
5. Limfocite B – 1,5 ore
6. Limfocite T și timusul – 1,5 ore
7. Organe și țesuturi limfoide – 1,5 ore
8. Complex Major de Histocompatibilitate – 1,5 ore
9. Procesarea și prezentarea antigenului – 1,5 ore
10. Activarea limfocitelor T și B – 1,5 ore
11. Modele experimentale pentru studiul activării celulelor T. Funcțiile și mecanismele utilizate de limfocitele efectorii (T helper și T citotoxic) – 1,5 ore
12. Răspunsul imun – 1,5 ore
13. Reglarea răspunsului imun – 1,5 ore
14. Citokine și receptori pentru citokine – 1,5
15. Hipersensibilități – 1,5 ore
LUCRARILE PRACTICE DE IMUNOLOGIE

3. Reactia de aglutinare.
5. RIA, ELISA – principii, aplicatii practice in diagnostic.
8. Imunofluorescenta: variante, aplicatii.
10. Tehnici de biologie moleculara – reactia de amplificare genica (PCR).
11. Identificarea proteinelor si a secventelor ADN prin Western blotting, respectiv Southern blotting.
12. Tehnici de separare si caracterizare a populatiilor celulare – flow citometrie.
14. Teste de fagocitoza si testul plajelor de hemoliza (plaje Jerne).
15. Diagnosticul imunologic in bolile infectioase.
17. Diagnosticul imunologic in bolile alergice.
18. Diagnosticul imunologic in transplantare.

Cunostinte precedente necesare:
- Cursuri recomandate: Genetică, Microbiologie, Histologie

BIBLIOGRAFIE:
- Richard Goldsby, Thomas J. Kindt, Barbara Osborne: Kuby’s Immunology, 5th Edition, 2002;
- David Male, Jonathan Brostoff, David B Roth, Ivan Roitt: Immunology, 7th Edition, 2006;
- Eugen Carasevici, Ingrid Dumitriu, Corina Cianga, Petru Cianga, Florin Zugun-Eloae: Curs Imunologie, 1999
General Medicine
Lectures (45 hours)

General Microbiology
Week 1 (2 hours): medical microbiology and its connections with other medical specialities.
Bacterial morphology: the protoplast and the bacterial wall.
Week 2 (2 hours): bacterial morphology: special structures of the gram-positive, gram-negative
and acid fast cell walls. Non-essential structures: capsule, fimbriae, pili, endospores.
Week 3 (2 hours): bacterial genome: structure and functions. Mechanisms of genotypic variation.
Cromosomal and plasmid encoded virulence factors.
Week 4 (2 hours): antimicrobial defense mechanisms (specific and non specific) of the human
body. Infection and infectious disease.
Week 5 (2 hours): Infection: exogenous versus endogenous infections. Pathogenetic patterns of
the infectious diseases. Specific and nonspecific prophylaxis of infectious diseases.
Week 6 (2 hours): Control of infection using antimicrobial therapeutic agents. (I)

General and Special Virology
Week 7 (2 hours): Control of infection using antimicrobial therapeutic agents. (II)
General data about viruses: structure, replication, genetics. Bacteriophages.
Week 8 (2 hours): Picornaviridae, Reoviridae and other agents of viral gastroenteritis
Week 9 (2 hours): Togaviridae, Rhabdoviridae, Coronavirus, arboviruses and roboviruses of
European interest.
Week 10 (2 hours): Orthomyxoviridae, Paramyxoviridae.
Week 11 (2 hours): Paroviridae, Adenoviridae, Herpesviridae
Week 12 (2 hours): Poxviridae, Retroviridae .

Special Bacteriology
Week 14 (2 hours): Gram-positive cocci – Staphylococcus, Streptococcus.
Week 15 (2 hours): Gram-positive cocci – Streptococcus pneumonia, oral streptococci,
Enterococcus. Gram-negative cocci – Neisseria, Moraxella catarrhalis.
Week 16 (2 hours): Gram-negative cocobacilli: Haemophilus, HACEK group, Bordetella,
Brucella, Legionella, Francisella tularensis.
Week 18 (2 hours): Gram-negative bacilli: Enterobacteriaceae family.
Week 20 (2 hours): Vibrio and spirillum: Vibrio, Campylobacter, Helicobacter. Non-fermenters
gram-negative bacilli- Pseudomonas aeruginosa, Stenotrophomonas maltophilia, Burkholderia
cepacia, Acinetobacter spp.
Week 22 (2 hours): Non-spore forming gram-positive bacilli: Corynebacterium, Listeria
monocytogenes; spre forming gram-positive bacilli: Bacillus, Clostridium.
Week 24 (2 hours): Mycobacterium Genus.
Week 26 (2 hours): Spirochetes: Treponema, Borrelia, Leptospira.
Week 28 (2 hours): Unusual bacteria: Mycoplasma, Ureaplasma urealyticum, Chlamydia
tucharomatis, Chlamydophila, Rickettsia, Coxiella burnetii.
Week 30 (1 hour): Nosocomial infections.
Microbiology laboratories (60 hours)

First semester
Week 1: Dry heat and moist heat sterilization. The quality control.
Week 4: Cultivation of bacteria: culture media, pure culture techniques, the study of culture findings.
Week 5: Gram stain and its quality control. Oil immersion microscopy; microscopic aspects of the bacteria.
Week 6: Antigen-antibody reactions in the microbiology laboratory.
Week 7: Antibiotic susceptibility testing of bacteria.
Week 8: Laboratory techniques for the control of antibiotic therapy.
Week 10: Laboratory diagnosis of enterovirus and rabies infections.
Week 11: Laboratory diagnosis of viral acute respiratory infections. (Test 1)
Week 12: Laboratory diagnosis of viral hepatitis.
Week 13: Laboratory diagnosis of the main viral sexually transmitted diseases.
Week 14: Laboratory diagnosis of infection.
Week 15: Microbiological exam of the pus. Identification of staphylococci.

Second semester
Week 17: Identification of beta-hemolitic streptococci and diphtheric bacilli. Laboratory diagnosis of pharynx exudate.
Week 18: Identification of *Streptococcus pneumoniae*. Cyto-bacteriological exam of broncho-pulmonary exudates.
Week 19: Identification of *Neisseria meningitidis* and *Haemophilus influenzae*. Laboratory examination of cerebro spinal fluid.
Week 20: Identification of dysenteric bacilli, *Campylobacter, Helicobacter pylori*. Stool culture. (Test 2)
Week 21: *Salmonella* Typhi identification. Laboratory diagnosis for conformation of enteric fever diagnosis
Week 23: Microbiological examination of the exudates from the wounds and burn lesions. Identification of *Pseudomonas aeruginosa*.
Week 24: Laboratory diagnostic of urinary tract infections. Identification of one fermentative gram negative bacilli: *Escherichia coli*.
Week 25: Laboratory diagnosis of leptospirosis.
Week 26: Identification of the main species from the *Clostridium* and *Bacillus* genus. (Test 3)
Week 27: Laboratory diagnosis of the genital exudates. Identification of *Neisseria gonorrhoeae* and diagnosis of syphilis.
Week 29: Etiologic investigation in one epidemic outbreak of nosocomial infection.
Week 30: Review of all the smears.
Subject Medical psychology

MG2.1.8 Medical psychology

MG2.1.8. Medical Psychology


Subject Medical Sociology

MG2.1.7. Medical Sociology
2. Specific of sociologic knowledge. Methods of sociologic research: historical method, statistic method, comparative method, sociological query
4. Role of the institutionalized control system of diseases and health; comparative research. Importance of investigations of medical sociology in fundamenting health care.