DEPARTMENT OF MEDICINE

DEMOCRITUS UNIVERSITY OF THRACE

CONTENTS OF ELECTIVE COURSES

OF UNDERGRADUATE STUDY PROGRAM

TITLE	TEACHING HOURS	ECTS
Clinical Applications of Nuclear Medicine	13	2.0
Neurosurgery	13	2.0
Plastic Surgery	13	2.0
Pediatric Surgery	13	2.0
Primary Health Care	13	2.0
Child and Adolescent Psychiatry	13	2.0
Pharmacoepidemiology	13	2.0
Clinical and Applied Genetics	13	2.0
Epidemiology on Infectious Disease	13	2.0
Laboratory Animal Science	13	2.0
Food Microbiology – Foodborne Infections	13	2.0
Biophysics	13	2.0
Neuroscience Physiology	13	2.0
Health Information Systems	13	2.0
Telematics Applications for Health	13	2.0

COURSE OUTLINE

1. GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATΔE09	SEMESTER	SUMMER
COURSE TITLE	**CLINICAL APPLICATIONS OF NUCLEAR MEDICINE**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge, Scientific Area, Skill Development	Scientific Area
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	

2. LEARNING OUTCOMES

Learning Outcomes
Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Basic principles of Nuclear Medicine. Production of radiopharmaceuticals. Nuclear reactor- Cyclotron. Radioisotopes –Radiopharmaceuticals in Nuclear Medicine. Mechanisms of radiopharmaceutical uptake. Pharmacokinetics. Compartmental Analysis. Clinical indications for nuclear medicine procedures in terms of diagnostics as well as theragnostics.

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an

interdisciplinary environment, Production of new research ideas
Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

Search, analysis and synthesis of data and information
ICT Use
Adaptation to new situations
Decision making
Working in an interdisciplinary environment
Equity and Inclusion
Demonstration of social, professional and moral responsibility and sensitivity to gender issues
Critical thinking
Promoting free, creative and inductive reasoning
Examining a patient
Evaluate clinical cases, order laboratory tests, make differential diagnoses, and negotiate a management plan

Communicate effectively in a medical environment
Apply scientific principles, methods and knowledge to medical practice and research

3. COURSE CONTENT

Musculoskeletal System Investigation
Anatomy - Physiology, pathophysiology of bone diseases
Basic principles of scintigraphic evaluation of bones
Inflammatory and other non-neoplastic bone diseases
Fractures
Prosthesis investigation
Athletic Medicine
Imaging bone inflammation by specific radiopharmaceuticals
Primary and secondary bone tumors
Digestive System Investigation
Physiology of the gastrointestinal system
Scintigraphic evaluation of the liver and spleen
Pancreas
Assessment of gastro-oesophageal reflux
Oesophageal motility
Radionuclide study of gastric emptying
Biliary scintigraphy
Meckel' s diverticulum
Evaluation of GIT hemorrhage
Endocrine System Investigation
Functional and morphologic assessment of the thyroid gland
Inflammatory disorders of the thyroid
Thyroid neoplasms. Diagnosis and Follow-up
Treatment of hyperthyroidism
Treatment of thyroid cancer
Hypophysis
Parathyroid glands
Adrenal glands
In Vitro Assays (RIA)
Neuroendocrine tumors
Renal System Investigation

General principles of urinary system evaluation
Planar and SPET renal scintigraphy
Radionuclide renography
Renovascular hypertension
Assessment of renal transplants
Estimation of G.F.R
Pediatric nephrology
Ureteropelvic Reflux
Investigation of the Respiratory System
Pathophysiology of the respiratory system
Evaluation of the respiratory reserve
Pulmonary perfusion scintigraphy
Pulmonary ventilation scintigraphy
General principles of thromboembolic disease
Diagnosis and Follow-up of pulmonary embolism
Scintigraphic lung imaging with Gα-67
Imaging pulmonary tumors
Investigation of the Circulatory System – Myocardial assessment
General principles of myocardial assessment
Functional heart assessment
Myocardial imaging
Myocardial perfusion and viability study
PET applications in cardiology
Radionuclide ventriculography
Vessels
Lymphatics
Investigation of the Nervous System
Brain physiology
Scintigraphic evaluation of the brain (SPECT-PET)
Venticulography
Brain receptor imaging
Applications in Psychiatry
Brain death
Haemopoietic Assessment
Scintigraphic evaluation of the bone marrow
Imaging Lymphomas
Labeling WBCs and PLTs
Blood- plasma- RBC volume
Schilling test
RBC- WBC survival studies
Applications in Ophthalmology
Rdioisotopic dacryocystography
Assessment of endocrine exophthalmus
Imaging eye tumors
Treatment of tumors
Applications in ENT
Imaging of the salivary glands
Imaging of the parotid glands
Genital System
Imaging of the testicles
Radionuclide determinations regarding assessment of sterility and menstruation disorders
Nuclear Oncology
In vivo applications (e.g. somatostatin receptors, monoclonal antibodies) by traditional γ-camera in the diagnosis and treatment of tumors
Positron Emission Tomography (PET)

Nuclear Medicine Therapeutics
Treatment of Benign Disorders with radionuclides
Treatment of Malignant Disorders with radionuclides
Palliative Treatment of bone metastases
Treatment Neuroendocrine Tumors
Radioimmunoassays (RIA-IRMA)
In Vitro determinations of Hormones
Tumor Markers in the follow-up of cancer lesions
Allergy
Drug levels

4. LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, in Communication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	Workload/semester
Lectures	13
Bibliographic research& analysis	43
Total	**56**

STUDENT EVALUATION Description of the evaluation process Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others Please indicate all relevant information about the courseassessment and how students are informed	**Student evaluation languages** English **Method (Formative or Concluding)** Formative

Student evaluation methods	Percent
Written exam with short answer questions	100

5. Suggested Bibliography

- Nuclear Medicine and Molecular Imaging. Editor-in-Chief: Alberto Signore. Elsevier. Edition 1st. July 11, 2022. eBook ISBN: 9780128229804. Hardcover ISBN: 9780128229606.
- Nuclear Medicine in Clinical Diagnosis and Treatment: 2-Volume Set. Peter J. Ell, Sam Gambhir. Churchill Livingstone, Edition 3rd , August 9, 2004; ISBN-13 978-0443073120.
- Nuclear Medicine and Molecular Imaging: The Requisites. Editor: James Thrall. Elsevier. Edition 5th. May 20, 2020. eBook ISBN: 9780323550741. Hardcover ISBN: 9780323530378.

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATEE13	SEMESTER	WINTER
COURSE TITLE	**NEUROSURGERY**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge, Scientific Area, Skill Development	Scientific Area, Skill Development
PREREQUISITES	No .
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	

2 LEARNING OUTCOMES

Learning Outcomes
Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

The educational objectives of the course include:
- The introduction of the student to the basic knowledge of neurosurgery
The student's basic knowledge of neurological pathology, so that, together with the knowledge of neurology, he/she will understand the neurosurgical pathology.
To provide a more complete picture of the "neurological" patient as a whole. In addition to the general knowledge of neurological neurology, the general knowledge of the neurological patient is also included in the overall knowledge of the neurological system.
is given to the thorough recording of the patient's history as well as
and the detailed clinical examination of the patient.
- The exposure and familiarization of the student to all known diagnostic procedures and the use of all the known diagnostic techniques.
techniques of approaching the neurosurgical patient (CT, MRI, DSA, measurement of the patient's Intracranial pressure, O.N.P. etc.). Particular emphasis is given to the radiological and clinical correlation of findings.

- Exposure and familiarization of the student to operating room conditions and techniques micro-neurosurgery techniques. The intraoperative possibility of monitoring is given neurosurgical procedures with the help of multimedia. Special emphasis is given to the practical learning of the student of the techniques of neurological surgery, antisepsis, sterilization, behavior in the operating room environment, microsurgical suturing on mannequins, etc.

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas
Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

Search, analysis and synthesis of data and information
ICT Use
Adaptation to new situations
Decision making
Working in an interdisciplinary environment
Equity and Inclusion
Demonstration of social, professional and moral responsibility and sensitivity to gender issues
Critical thinking
Promoting free, creative and inductive reasoning
Examining a patient
Evaluate clinical cases, order laboratory tests, make differential diagnoses, and negotiate a management plan

Communicate effectively in a medical environment
Apply scientific principles, methods and knowledge to medical practice and research

3 COURSE CONTENT

Theoretical:
1. Clinical examination of neurosurgical patient - comatose patient
2. Intracranial hypertension, cerebral edema, hydrocephalus
3. Craniocerebral traumatic lesions (TBI) - Chronic subdural haematoma
4. Spontaneous intracerebral haemorrhage (ICH), Subarachnoid haemorrhage-Angiospasm
5. Intracranial aneurysms, Vascular malformations
6. CNS tumors.
7. Brain abscess, CNS infections.
8. Introduction to Stereotactic & Functional Neurosurgery
9. Surgical treatment of chronic pain, Trigeminal Neuralgia
10. Spinal and Spinal Cord Injuries
11. Intervertebral disc prolapse, Spondylosis
12. Introduction to Pediatric Neurosurgery
13. Peripheral Nerve Surgery
Clinical practice:
1. Participation of students in OR theater of Neurosurgical Clinic during the operations.
2. Participation of students in the patient visits of the University Neurosurgery Clinic, with pre- and post-operative evaluation of the patients.
3. Participation of students in the regular outpatient clinics of the University Neurosurgery Clinic.
(2 times a week).
Practical skills:

Participation of students in a 4-hour practical seminar "Introduction to Microneurosurgery".
(1 hour of theoretical and 3 hours of practical training on mannequins).

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face, Distance learning (if needed)
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, inCommunication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	Workload/semester
Lectures	13
Tutoring	13
Clinical Exercise	14
Bibliographic research& analysis	15
Total	**55**

STUDENT EVALUATION Description of the evaluation process Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others Please indicate all relevant information about the courseassessment and how students are informed	**Student evaluation languages** English **Method (Formative or Concluding)** Formative

Student evaluation methods	Percent
Written exam with multiple choice test	30
Written exam with essay answer questions	10
Written exam with short answer questions	30
Public presentation	30

5 Suggested Bibliography

1) MANUAL OF NEUROSURGERY. – THEODOSIOS BIRBILIS, HARRY KOURTOPOULOS (2022, ALEXANDROUPOLIS, DUTH EDITION)

2) NEUROLOGY AND NEUROSURGERY ILLUSTRATED. - KENNETH W. LINDSAY, IAN BONE, GERAINT FULLER (2016 PARISIOANOS I. SCIENTIFIC BOOKS & PERIODICALS, ATHENS

3) INTRODUCTION TO NEUROSURGERY. - DAMIANOS SAKAS ((2016 PARISIOANOS I. SCIENTIFIC BOOKS & PERIODICALS, ATHENS

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATEE03	SEMESTER	WINTER
COURSE TITLE	**PLASTIC SURGERY**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PERWEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	Background, General Knowledge, Skill Development
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	

2 LEARNING OUTCOMES

Learning Outcomes
Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

The learning objectives of the course include:

- To offer the student the basic supplies to understand in depth the anatomy and physiology of the skin and the mechanism of healing, as well as to introduce her/him to the principles on which Plastic, Reconstructive and Aesthetic Surgery is based. With this selected course, the student will acquire the necessary resources to be able to follow the continuous developments in a rapidly evolving field of clinical practice and research.

- The aim is also to introduce and familiarize the student with the knowledge of tissue transplantation, as well as the basic wound suturing techniques, the indications and design of basic skin and composite flaps, the principles of Microsurgery, the principles of Hand Surgery, the basic principles of soft tissue defects restoration and oncologic reconstruction, the Burns treatment, the basic principles of Aesthetic Medicine and

Surgery, and finally the Post-Bariatric Plastic Surgery, the treatment of Chronic Ulcers & Depressions, Transgender Surgery, as well as the Applications of Regenerative Medicine and Research in Plastic Surgery.

- With this course the student, through the critical knowledge of the matching of clinical problems with the available options offered by Plastic Surgery, will realize the necessity of minimally traumatic surgery, with respect to the soft tissues even for a simple suturing of a nerve of the finger, following first the principles of general surgery, but also of Plastic, Reconstructive and Aesthetic Surgery, which should be followed in order to reach the desired, both, functional and aesthetic result. In this way, the introduction of the student to the essence of clinical practice is achieved.

In particular, upon successful completion of this course, the student will be able to:
- Has knowledge of the subject of Plastic Surgery
- Understand the principles of General Surgery, Microsurgery, Hand Surgery and Plastic, Reconstructive and Aesthetic Surgery
- To analyze the necessity of applying Plastic, Reconstructive and Aesthetic Surgery to patients who wish it, but also to patients after other operations, e.g. Traumatology, Orthopedics, Oncology Surgery, in which it is necessary to improve their daily quality of life.
- Examines a patient and generally assesses patients pre- and post-operatively
- Assess clinical cases, order laboratory tests, make differential diagnoses, and negotiate a management plan
- To inform the patients about all the possibilities that exist to solve their problem, with all the advantages and disadvantages.
- To apply ethical and legal principles in medical practice
- Assess the psychological and social aspects of a patient's illness
- To apply scientific principles, methods and knowledge in medical practice and research
- To promote the health and daily quality of life of patients
- Search bibliographic databases (eg Pubmed)

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas
Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

Search, analysis and synthesis of data and information
ICT Use
Adaptation to new situations
Decision making
Working in an interdisciplinary environment
Equity and Inclusion
Demonstration of social, professional and moral responsibility and sensitivity to gender issues
Critical thinking
Promoting free, creative and inductive reasoning
Examining a patient
Evaluate clinical cases, order laboratory tests, make differential diagnoses, and negotiate a management plan

Communicate effectively in a medical environment
Apply scientific principles, methods and knowledge to medical practice and research

3 COURSE CONTENT

The course content includes a series of 13 lessons:

1. Introduction to Plastic Surgery
(Philosophy – History – Fields – Basic Principles)
2. Anatomy of the Skin, Wound Healing, Skin Grafts and Substitutes
(The Healing Process, Trauma Surgery, Free Skin Grafting, Skin Substitutes
3. Basic Principles of Microsurgery, Flaps and Peripheral Nerves
(Principles of Microscopic Surgery, Anatomical Distribution of Skin Vessels, Peripheral Nerves and Flaps)
4. Basic Principles of Hand Surgery
(Trauma, Defects Reconstruction, Congenital Anomalies)
5. Burns
(Epidemiology – Acute phase – Burn disease – Shock – Conservative and Surgical Treatment – Late Phase)
6. Skin Cancer and Cutaneous Melanoma
(Benign and Malignant Skin Tumors, Cutaneous Melanoma)
7. Plastic and Aesthetic Breast Surgery
(Deformities, Micromastia, Megamastia, Ptosis, Asymmetry, etc.)
8. Breast and Lymphedema Reconstruction
(Oncoplasty and Breast Reconstruction after Mastectomy and Lymphedema)
9. Head and Neck Reconstructive Surgery
(Defects Reconstruction)
10. Facial Palsy Rehabilitation
11. Basic Principles of Aesthetic Medicine and Surgery
(Rhitidoplasty, Rhinoplasty, Blepharoplasty, etc.)
12. Post-Bariatric Plastic Surgery
(Circular Lipectomy, Extended Tummy Tuck, Abdominoplasty, etc.)
13. Transgender Surgery
(Gender Affirming Surgery)

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, inCommunication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	**Workload/semester**
Lectures	13
Clinical Exercise	23
Bibliographic research& analysis	24
Total	**60**

STUDENT EVALUATION Description of the evaluation process	**Student evaluation languages** English

Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others Please indicate all relevant information about the courseassessment and how students are informed	**Method (Formative or Concluding)** Formative

Student evaluation methods	Percent
Written exam with multiple choice test	5
Oral exam	95

5 Suggested Bibliography

- ΠΛΑΣΤΙΚΗ ΧΕΙΡΟΥΡΓΙΚΗ

Συγγραφείς: Ιωάννοβιτς Ιωάννης Δ., Τύπος: Σύγγραμμα, Έκδοση: 1η έκδ./1990, Διαθέτης (Εκδότης): Κ. & Ν. ΛΙΤΣΑΣ Ο.Ε.

- ΒΑΣΙΚΕΣ ΑΡΧΕΣ ΠΛΑΣΤΙΚΗΣ ΧΕΙΡΟΥΡΓΙΚΗΣ

Συγγραφείς: Δεμίρη Ε., ISBN: 9789606894329 Τύπος: Σύγγραμμα Έκδοση: 1/2011, Διαθέτης (Εκδότης): ΧΑΒΑΛΕΣ Α - ΧΑΤΖΗΣΥΜΕΩΝ Κ ΟΕ

- ΠΛΑΣΤΙΚΗ ΕΠΑΝΟΡΘΩΤΙΚΗ ΚΑΙ ΑΙΣΘΗΤΙΚΗ ΧΕΙΡΟΥΡΓΙΚΗ

Συγγραφείς: Παπαδόπουλος Οθων Ν., ISBN: 096073984408 Τύπος: Σύγγραμμα Έκδοση: 1η έκδ./1996, Διαθέτης (Εκδότης): BROKEN HILL PUBLISHERS LTD

- GRABB AND SMITH'S PLASTIC SURGERY

Editor: Kevin Chung, ISBN: 9781496388247, Τύπος: Σύγγραμμα Έκδοση: 8η έκδ./2019, Διαθέτης (Εκδότης): Lippincott Williams and Wilkins.

Scientific Journals:

- Plastic and Reconstructive Surgery
- Journal of Plastic Reconstructive and Aesthetic Surgery,
- Annals of Plastic Surgery
- Aesthetic Plastic Surgery
- Microsurgery

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATEE10	SEMESTER	WINTER
COURSE TITLE	**PEDIATRIC SURGERY**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PERWEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	General Knowledge
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	

2 LEARNING OUTCOMES

Learning Outcomes
Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon successful completion of the course, the student will be able to:
- recognize diseases that require surgical treatment in childhood.
- learn how to treat these diseases at a theoretical level.
- be informed about the surgical techniques in childhood and also about the modern ones that are constantly evolving
- to observe surgical operations on children in the operating room if he/she wishes
-to learn how can examine a child with a surgical problem

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas

Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning
Decision making Working in an interdisciplinary environment Equity and Inclusion Critical thinking Examining a patient Evaluate clinical cases, order laboratory tests, make differential diagnoses, and negotiate a management plan

3 COURSE CONTENT

Theoretical:
1. Introduction to Pediatric Surgery. Head and neck injuries
2. Infant hypertrophic pyloric stenosis, necrotizing enterocolitis
3. Congenital lobular emphysema-congenital adenomatous lung dysplasia, thoracoscopic pediatric surgery
4. Abnormalities of the esophagus
5. Abnormalities of turning and fixation of the intestine, intussusception
6. Obstruction of duodenum, intestine, colon
7. Acute appendicitis
8. Rectal atresia
9. Biliary atresia. Congenital gallbladder cyst
10. Inguinal hernia, remains of umbilical duct
11. Congenital megacolon
12. Umbilical hernia, umbilical hernia, gastroschisis
13. Laparoscopic Pediatric Surgery

Workshops or tutorials or clinical practice
1. Group visit to pediatric surgery outpatient clinics
2. Visit by groups to the regular operating theaters of pediatric surgery

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, inCommunication with students	Use of ICT in Teaching Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	**Workload/semester**
Lectures	13
Tutoring	16
Clinical Exercise	8
Bibliographic research& analysis	20
Total	**56**

STUDENT EVALUATION Description of the evaluation process	**Student evaluation languages** English

Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others Please indicate all relevant information about the courseassessment and how students are informed	**Method (Formative or Concluding)** Formative

Student evaluation methods	Percent
Written exam with multiple choice test	50
Written exam with essay answer questions	50

5 Suggested Bibliography

- Pediatric Surgery, 2¬Volume Set, 7th Edition Expert Consult ¬ Online and Print Authors: Arnold G. Coran & N. Scott Adzick & Thomas M. Krummel & Jean¬Martin Laberge & Robert Shamberger & Anthony Caldamone

-Holcomb and Ashcraft's Pediatric Surgery, 7th Edition Authors: Shawn D. St Peter & George W. Holcomb & J. Patrick Murphy.

Suggested journals:
Journal of pediatric Surgery
European Journal of pediatric Surgery
Pediatric Surgery International
Seminars in pediatric Surgery

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATXA01	SEMESTER	WINTER
COURSE TITLE	**PRIMARY HEALTH CARE**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PERWEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	General Knowledge
PREREQUISITES	No
TEACHING & EXAMINATIONLANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	

2 LEARNING OUTCOMES

Learning Outcomes
Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

The educational objectives of the course include:
− Understanding about Primary Health Care
− The summary of the basic principles of Clinical skills
- The summary of the principles of Primary Health Care
- The teaching of the methodology regarding the prevention and promotion of Public Health
- Consolidation of models used by Primary Health Care to draw appropriate conclusions and appropriately analyze published studies
− The analysis of the branches of Primary Health Care and the appropriate planning
- The presentation / historical review of the most important historical developments in Primary Health Care
- The teaching of clinical skills and the methodology used by Primary Health Care, as well as the level of influence of health policies by the specific data

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas
Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

The course strengthens the following general abilities, and trains the student to:
- Evaluates scientific works, in terms of designing Public Health Promotion programs
- Evaluates reports and the relative importance of studies regarding Primary Health Care
- Applies scientific principles, methods
- To know the correct application of Clinical Skills in Primary Health Care
- To understand the policies in Primary Health Care

3 COURSE CONTENT

Theoretical content:

1. Primary Health Care: Basic Principles and Definitions - Historical Review
2. Health Strategies - World Health Organization
3. Fields of action of Primary Health Care
4. Access to Primary Health Care Services and quality in the provision of Primary Health Care services
5. The role of clinical skills in primary care
6. Clinical Skills in Primary Health Care I
7. Clinical Skills in Primary Health Care II
8. Clinical Skills in Primary Health Care III
9. The role of primary care in regulating the operation of health systems - Difference between the concept Primary care and Primary care
10. Public health - Linking Public Health policies with Primary Health Care
11. Basic Public Health Tools - Prevention - Health Promotion
12. Greek Institutional Framework for Early Childhood Education and Public Health
13. Organizational elements in Primary Health Care: a) Family Doctor - Service delivery models in primary Care, b) Daily hospitalization - Health Centers, c) Hospital Outpatient Departments d) Private Clinics and Laboratories, e) Home care - self treatment

Possibility of preparing a paper with a complete presentation of it within the course, the score of which is counted in the final grade

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, inCommunication with students	Use of ICT in Teaching Use of ICT in Practical Skills Use of ICT in Communication with students

TEACHING ORGANIZATION
The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc.

The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards

Activity	Workload/semester
Lectures	13
Bibliographic research & analysis	12
Essay/presentation	30
Total	**55**

STUDENT EVALUATION
Description of the evaluation process

Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others

Please indicate all relevant information about the courseassessment and how students are informed

Student evaluation languages
English

Method (Formative or Concluding)
Formative

Student evaluation methods	Percent
Written exam with multiple choice test	80
Written exam with essay answer questions	20

5 Suggested Bibliography

1.Essential Clinical Skills 2nd Edition,
Edition: 2nd edition/2017
Authors: Ed. Smyrnakis Emmanuel, Moirasgenti Maria, Toufas Konstantinos, Grossomanidis Vasilios, Benos Alexis
ISBN: 9789601223391
Type: Journal
Publisher: UNIVERSITY STUDIO PRESS - GRAPHIC ARTS AND PUBLISHING COMPANY

2.What Primary Health Care Needs in Greece Today
Edition: 1/2022
Authors: Lionis Christos
ISBN: 9789925575367
Type: Journal
Publisher: BROKEN HILL PUBLISHERS LTD

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATΔE06	SEMESTER	SUMMER
COURSE TITLE	**CHILD AND ADOLESCENT PSYCHIATRY**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PERWEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	Scientific Area
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	

2 LEARNING OUTCOMES

Learning Outcomes
Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

- Common disorders of child-adolescent psychiatry
- Comprehensive medical history
- Basic clinical assessment & first interview
- Differential diagnosis.
- Liaison
- Awareness of the principles of clinical practice in child psychiatry, interdisciplinary team work Evidence based clinical approach
- Ethics in Child psychiatry, deontology in clinical practice and research in child

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision

making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning
- Basic Clinical assessment - Critical thinking - Differential diagnosis - Decision making - Autonomous work and teamwork - Working in an interdisciplinary environment - Search, analysis and synthesis of data and information - Production of new research ideas - Equity and Inclusion - Demonstration of social, professional and moral responsibility and sensitivity to gender issues - Apply scientific principles, methods and knowledge to medical practice and research

3 COURSE CONTENT

Key issues

1. Development from birth to adulthood
2. Clinical assessment and classification
3. Intellectual disabilities.
4. Autism spectrum disorders
5. Attention-deficit hyperactivity disorder
6. School difficulties and learning disorders
7. Emotional disorders
9. Anxiety disorders
10. Sleep, feeding and eating disorders
11. Psychosomatic symptoms in childhood and adolescence.
12. Psychosocial issues in child psychiatry
13. Liaison child and adolescent psychiatry

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, in Communication with students	Use of ICT in Teaching Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	Workload/semester
Lectures	13
Bibliographic research& analysis	20
Field Exercise	27
Total	**60**

STUDENT EVALUATION
Description of the evaluation process

Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others

Please indicate all relevant information about the courseassessment and how students are informed

Student evaluation languages
English

Method (Formative or Concluding)
Formative

Student evaluation methods	Percent
Multiple choice test	30
Problem Solving	10
Short answer questions	50
Oral exam	10

5 Suggested Bibliography

Mina K. Dulcan, Rachel R. Ballard, Poonam Jha και Julie Sadhu «***Concise Quide to child and adolescent psychiatry»*** American Psychiatric Association Publishing, 5th edition, 2018

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	ΙΑΤΓΕ08	SEMESTER	WINTER
COURSE TITLE	**PHARMACOEPIDEMIOLOGY**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PERWEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	Background
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	https://eclass.duth.gr/courses/ALEX06194/

2 LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon successful completion of the course, the student will be able to:

− Know the basic principles of pharmacoepidemiology

− Understand research and methodology developed from various research studies

− Write a basic pharmacoepidemiological report

− Apply scientific principles, methods and knowledge to access and utilize relevant medical literature

− Understand the basic principles of pharmacoeconomics and drug-related policies

General Skills Name the desirable general skills upon successful completion of the module Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning
Search, analysis and synthesis of data and information Working in an interdisciplinary environment Critical thinking Promoting free, creative and inductive reasoning Communicate effectively in a medical environment Apply scientific principles, methods and knowledge to medical practice and research

3 COURSE CONTENT

Theoretical:

1. Introduction to Pharmacoepidemiology and its relationship to Public Health
2. Medical vigilance, disease manifestation and drug treatment
3. Design of Pharmacoepidemiological studies based on observation
4. Principles of design of Experimental Pharmacoepidemiological Studies
5. Identification and Analysis of Data from Experimental Studies
6. Determination of the Risk Associated with Exposure, Development or Prevention of a Disease
7. Diagnostic Testing and Screening Methodology in the Population
8. Principles of Health Economics
9. Pharmacoeconomics
10. Applications of Pharmacoepidemiological Studies – Studies

Compulsory Power Point Presentation of a published study and its comprehensive presentation in terms of the course.

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, inCommunication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students

TEACHING ORGANIZATION
The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc.

The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards

Activity	Workload/semester
Lectures	13
Bibliographic research& analysis	12
Project	25
Essay	5
Total	**55**

STUDENT EVALUATION
Description of the evaluation process

Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others

Please indicate all relevant information about the courseassessment and how students are informed

Student evaluation languages
English

Method (Formative or Concluding)
Formative

Student evaluation methods	Percent
Written exam with multiple choice test	30
Essay	35
Public presentation	35

5 Suggested Bibliography

Textbook of Pharmacoepidemiology
Editor(s):
Brian L. Strom MD, MPH,, Stephen E. Kimmel MD, MSCE,, Sean Hennessy PharmD, PhD,

Print ISBN:9781119701071 |Online ISBN:9781119701101 |DOI:10.1002/9781119701101

Pharmacoepidemiology: Principles and Practice

Brenda Waning, Michael Montagne

McGraw Hill

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATΔE12	SEMESTER	WINTER
COURSE TITLE	**CLINICAL AND APPLIED GENETICS**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	This course provides a comprehensive understanding of the principles, methods, and clinical applications of Medical Genetics. Students will learn how genetic variation contributes to health and disease, how laboratory techniques are used to detect and interpret genetic changes, and how genetic knowledge is integrated into clinical practice for diagnosis, prognosis, and patient management. The course emphasizes both the molecular and clinical aspects of genetics, aiming to prepare future physicians to apply genetic knowledge in evidence-based, patient-centered healthcare. The main objectives of the course are to: • C.O. [1] Explain the basic principles of medical genetics, including inheritance patterns, genetic variation, and molecular mechanisms of disease. • C.O. [2] Describe the main laboratory techniques used in genetics (e.g., cytogenetics, molecular genetic testing, next-generation sequencing). • C.O. [3] Understand the quality control, accuracy, and limitations of genetic testing methods. • C.O. [4] Recognize common and rare genetic disorders, including their molecular basis, clinical presentation, and diagnostic approaches. • C.O. [5] Interpretation of genetic test results and recognition of their clinical implications. • C.O. [6] Understand the principles of genetic counseling and communication of genetic risks to patients and families.
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	https://eclass.duth.gr/courses/ALEX06336/

2 LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

1. Knowledge

L.O [1] Define fundamental principles of human genetics, modes of inheritance, and molecular mechanisms of genetic disease.

L.O [2] Describe the major laboratory techniques used in cytogenetics, molecular genetics, and genomics.

L.O [3] Explain the role of genetic variation in health, disease, and response to therapy.

L.O [4] Summarize the clinical application, ethical, legal, and social implications of genetic testing.

2. Skills

L.O [5] Interpret basic results from genetic tests (e.g., karyotype, PCR, sequencing, array, NGS).

L.O [6] Analyze clinical case scenarios to correlate genotype with phenotype and propose appropriate diagnostic approaches.

L.O [7] Apply principles of risk assessment to families with inherited conditions.

3. Competencies

L.O. [8] Evaluate genetic findings in the context of patient history, examination, and laboratory data.

L.O. [9] Communicate genetic risks and testing outcomes effectively and empathetically to patients and families.

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas

Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

Search, analysis and synthesis of data and information

ICT Use

Adaptation to new situations

Decision making

Working in an interdisciplinary environment

Equity and Inclusion

Demonstration of social, professional and moral responsibility and sensitivity to gender issues

Critical thinking

Promoting free, creative and inductive reasoning

Evaluate clinical cases and laboratory tests

Apply scientific principles, methods and knowledge to medical practice and research

3 COURSE CONTENT

• Introduction to Medical Genetics: Structure and organization of the human genome, Mendelian inheritance patterns and pedigree analysis

• Cytogenetics and Chromosomal Disorders: Chromosomal structure and abnormalities (numerical & structural), Common chromosomal and microdel/dup syndromes, Principles of karyotyping, FISH, arrayCGH

• Molecular Genetics: single nucleotide variant types, PCR, Sanger sequencing, MLPA and fragment analysis

• Clinical Genetics I: Autosomal dominant, autosomal recessive, and X-linked disorders

• Clinical Genetics II: Polygenic inheritance, GWAS, Polygenic Risk Score

• Cancer Genetics: Oncogenes, tumor suppressor genes, and DNA repair genes, Hereditary cancer syndromes

• Epigenetics

• Advances in Medical Genetics: Whole exome and whole genome sequencing in clinical practice

• Population Genetics and Risk Assessment: Principles of population genetics, Carrier frequency, Recurrence risks

• Prenatal and Reproductive Genetics: Carrier screening, Newborn screening. Prenatal testing, Preimplantation genetic testing (PGT)

• Gene therapy: Principles of gene therapy, Approved therapies and clinical applications

• Genetic Counseling: Principles and practice of genetic counseling, Ethical, legal, and social implications of genetic testing

• Clinical cases presentation and discussion

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, inCommunication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students

TEACHING ORGANIZATION
The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc.

The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards

Activity	Workload/semester
Lectures	13
Tutoring	2
Bibliographic research& analysis	20
Project	15
Essay	10
Total	**60**

STUDENT EVALUATION
Description of the evaluation process

Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others

Please indicate all relevant information about the courseassessment and how students are informed

Student evaluation languages
English

Method (Formative or Concluding)
Formative

Student evaluation methods	Percent
Written exam with multiple choice test	60
Public presentation	40

5 Suggested Bibliography

- Ronald Cohn, Stephen Scherer, Ada Hamosh (2023), Thompson & Thompson Genetics and Genomics in Medicine, 9th Edition, ELSEVIER
- Tom Strachan, Anneke Lucassen (2022), *Genetics and Genomics in Medicine 2nd Edition*, CRC Press (Taylor and Francis Group)
- Lecture notes

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATTE09	SEMESTER	SUMMER
COURSE TITLE	**EPIDEMIOLOGY OF INFECTION DISEASES**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PERWEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	General Knowledge, Scientific Area
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	

2 LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon completion of this course, students will be able to:

1. Understand the historical development of major epidemics, the role of vaccination, and the impact of the anti-vaccination movement on a global and national level.
2. Review scientific literature using databases of academic publications, focusing on epidemiological data and results.
3. Describe the epidemiological data and indicators for the most common infectious diseases.
4. Comprehend the burden of infectious diseases, as reflected by epidemiological indicators such as morbidity, mortality, and case fatality rates.
5. Apply basic epidemiological techniques.
6. Link epidemic outbreaks with socio-economic conditions throughout different historical periods.
7. Interact with and understand reports and documents from organizations such as the Hellenic Center for Disease Control and Prevention (EODY), the World Health Organization (WHO), the European

Centre for Disease Prevention and Control (ECDC), etc., containing epidemiological data.
8. Evaluate scientific studies in terms of their epidemiological design.

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas

Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

Search, analysis and synthesis of data and information

Decision making

Working in an interdisciplinary environment

Equity and Inclusion

Critical thinking

Promoting free, creative and inductive reasoning

Communicate effectively in a medical environment

Apply scientific principles, methods and knowledge to medical practice and research

3 COURSE CONTENT

Historical Overview of Major Infectious Disease Epidemics

Social, economic, and cultural factors contributing to the development of epidemics.

Emerging Infectious Diseases

Focus on newly emerging infectious diseases and their impact.

The Importance of Vaccination

The role of vaccination in controlling infectious diseases.

The impact of the anti-vaccination movement.

Epidemiological Transition

Changes in the patterns of disease and health over time.

Epidemiology of Major Viral Infectious Diseases

Study of the epidemiology of key viral diseases.

Epidemiology of Major Bacterial Infectious Diseases

Examination of the epidemiology of significant bacterial infections.

Epidemiology of Major Parasitic Diseases

Study of the epidemiology of major parasitic infections.

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, in Communication with students	Use of ICT in Teaching Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	Workload/semester
Lectures	13
Bibliographic research& analysis	20
Project	20
Total	**53**

STUDENT EVALUATION Description of the evaluation process Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others	**Student evaluation languages** English **Method (Formative or Concluding)** Formative

Please indicate all relevant information about the courseassessment and how students are informed	

Student evaluation methods	Percent
Oral exam	20
Report	60
Essay	20

5 Suggested Bibliography

1. Heymann, D. L. (Ed.). Control of Communicable Diseases Manual (CCDM)- 20h Edition Publisher: APHA Press https://www.apha.org/ccdm

2. World Health Organization (WHO) – Infectious Diseases & Surveillance Resources

https://www.who.int/health-topics/infectious-diseases

https://www.who.int/emergencies/disease-outbreak-news

3. European Centre for Disease Prevention and Control (ECDC)

(ECDC Surveillance Atlas of Infectious Diseases) https://atlas.ecdc.europa.eu

4. Centers for Disease Control and Prevention (CDC) – Emerging Infectious Diseases (EID) Journal

https://wwwnc.cdc.gov/eid/

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATΔE23	SEMESTER	WINTER
COURSE TITLE	**LABORATORY ANIMAL SCIENCE**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	General Knowledge
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	

2 LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

The aims of the course are:

a) to introduce the student to the basic principles of Laboratory Animal Science
b) to provide general information on the management of a laboratory animal breeding facility
c) to provide specific information on biology, breeding, anesthesia, euthanasia and non-surgical manipulations of various laboratory animal species
d) to provide practical training on handling, substances administration, blood sampling, anesthesia, euthanasia and necropsy of small laboratory animals

After the successful completion of the course, participants will

a) know the basic principles of laboratory animal science and the spcific information on biology, handling, substances' administration, sampling of biological substances, anesthesia and euthanasia of

the most commonly used laboratory animal species

b) be able to perform handling, substances' administration, blood sampling, anesthesia, euthanasia and necropsy of small laboratory animals

c) be able to comprehend specific considerations on handling, substances administration, as well as dosing and administration of anesthetic

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas

Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

Search, analysis and synthesis of data and information

Working in an interdisciplinary environment

Communicate effectively in a medical environment

Apply scientific principles, methods and knowledge to medical practice and research

3 COURSE CONTENT

1. The use of animals in biomedical research, Code of Ethics and Deontology regarding the use of animals for scientific reasons
2. Alternative methods, Legislation
3. Basic principles of breeding
4. Methods of substances administration
5. Methods of biologic fluid sampling
6. Anesthesia, pain and discomfort treatment
7. Euthanasia, Health monitoring of laboratory animals, Methodology of animal examination
8. Zoonoses
9. Rabbit (biology, breeding, handling, restraining, administration of substances, biologic substances sampling, anesthesia, euthanasia)
10. Mouse, Rat (biology, breeding, handling, restraining, administration of substances, biologic substances sampling, anesthesia, euthanasia)
11. Hamster, Guinea pig, carnivores, ungulates, fish (biology, breeding, handling, restraining, administration of substances, biologic substances sampling, anesthesia, euthanasia)

12-13. Training on small laboratory animals (handling, restraining, substances administration, blood sampling, euthanasia, necropsy)

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face

USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, in Communication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	Workload/semester
Lectures	13
Laboratory Exercise	21
Bibliographic research& analysis	26
Total	**60**

STUDENT EVALUATION Description of the evaluation process Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others Please indicate all relevant information about the courseassessment and how students are informed	**Student evaluation languages** English **Method (Formative or Concluding)** Formative

Student evaluation methods	Percent
Written exam with short answer questions	100

5 Suggested Bibliography

Προτεινόμενη Βιβλιογραφία:
ΕΠΙΣΤΗΜΗ ΤΩΝ ΖΩΩΝ ΕΡΓΑΣΤΗΡΙΟΥ
Κωδικός Βιβλίου στον Εύδοξο: 118392894
Έκδοση: 1/2022
Συγγραφείς: Υψηλάντης Πέτρος
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COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATΔE24	SEMESTER	WINTER
COURSE TITLE	**FOOD MICROBIOLOGY AND FOOD-BORN DISEASES**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge, Scientific Area, Skill Development	Scientific Area
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	https://eclass.duth.gr/courses/ALEX06257/

2 LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon successful completion of the course, students will have acquired the following:

- Understand the importance of microorganisms in food spoilage.
- Understand the significance of foodborne infections for their prevention.
- Interpret reports/documents from organizations such as KEELPNO, WHO, EFET, FAO, etc., regarding food hygiene, foodborne infections, and measures for their prevention.
- Formulate more effective patient histories for investigating foodborne infections.
- Apply scientific principles, methods, and knowledge to ensure public health against foodborne infections.
- Evaluate patients with foodborne infections with knowledge of food hygiene principles.

- Assess clinical cases, order laboratory tests, make differential diagnoses, negotiate a management plan, and draft more effective patient histories for investigating foodborne infections.
- Provide immediate care in emergency cases, including First Aid and resuscitation, according to the severity of the foodborne infection.
- Apply ethical and legal principles in medical practice and food preparation.
- Apply scientific principles, methods, and knowledge in medical practice and research.
- Promote health, address population health issues, and work effectively within a healthcare system.

Understand the role of vaccinations for appropriate foodborne diseases.

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas

Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

Upon successful completion of the course, students enhance their ability to:

- Communicate effectively in a medical environment.
- Apply ethical and legal principles in medical practice.
- Apply scientific principles, methods, and knowledge in medical practice and research.
- Promote health, address population health issues, and work effectively within a healthcare system.

3 COURSE CONTENT

Theoretical courses

- Purpose of Food Microbiology
- Origin of Microorganisms in Food
- Microbial Growth in Foods
- Factors Influencing the Growth and Survival of Microorganisms in Foods
- Food Spoilage and its Microbiology
- Methods of Microbiological Examination of Foods

- Bacteria Introduced Through Food
- Foodborne Parasitic Infections
- Foodborne Fungal Infections and Other Intoxications
- Foodborne Viruses
- Fermented and Microbial Foods
- Control of Microbiological Quality of Foods
- Microbial Ecology of the Digestive System

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, inCommunication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	Workload/ semester
Attendance to theoretical lectures	13
Study of course material (slides, notes)	10
Literature review	8
Study of recommended textbooks	9
Student assignment writing	10
Educational visits to food and pharmaceutical industries	10
Total	**60**

STUDENT EVALUATION Description of the evaluation process Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others Please indicate all relevant information about the courseassessment and how students are informed	**Student evaluation languages** English **Method (Formative or Concluding)** Formative At the end of the semester, both written or oral assessments or subject development will be conducted in Greek language. For ERASMUS students, evaluation language options include Greek, English, or French. The assessment will consist of both short-answer and essay questions, covering various aspects of the course material or subject development. Students will be evaluated on their ability to provide concise and comprehensive responses, demonstrate understanding of key concepts, and articulate ideas effectively.

5 Suggested Bibliography

1. Μπεζιρτζόγλου, Ευγενία ,Μικροβιολογία Τροφίμων και Πεπτικού Συοτήματος Εκδόσεις Παρισιάνου Α.Ε., ISBN: 978-960-394-254-2
2. Μπεζιρτζόγλου, Ευγενία Υγιεινή βιομηχανιών, τροφίμων και φαρμάκων, Εκδόσεις Δίσιγμα, ISBN: 9789609935012
3. Martin R. Adams, Maurice O. Moss, Food Microbiology, Royal Society of Chemistry, Publishing ISBN: 8601200400021
4. Nancy Khardori, Food Microbiology: In Human Health and Disease, CRC Press , ISBN 9781498708784
5. Bibek Ray, Arun Bhunia, Fundamental Food Microbiology, CRC Press , ISBN 9781466564435
6. William C. Frazier , Dennis C. Westhoff , N.M. Vanitha ,Food Microbiology ,Mac Graw Hill, ISBN-13: 978-1259062513
7. Slides and lecture notes of the course on eclass

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATBE01	SEMESTER	WINTER
COURSE TITLE	**BIOPHYSICS**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	Scientific Area
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	https://eclass.duth.gr/courses/ALEX06116/

2 LEARNING OUTCOMES

Learning Outcomes
Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon successful completion of the course the student will be able to know:

- The relationship between brain structure and function using neural models based on well-known concepts from neurophysiology.
- The role of the simulation method with computational algorithms in the study of the dynamics of neural systems.
- Development and application of Machine Learning and Computational Medicine skills

General Skills

Name the desirable general skills upon successful completion of the module
Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision

making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas
Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

- Search, analysis and synthesis of data and information
- ICT Use
- Autonomous work
- Production of new research ideas
- Project design and management Equity and Inclusion
- Critical thinking
- Promoting free, creative and inductive reasoning

3 COURSE CONTENT

Theoretical

-Introduction to Machine Learning and Computational Intelligence methods and their applications in biomedical data analysis
- Introduction to neural network theory
-Neurophysiology
- Individual neural networks (Dynamics of neural networks, parameters of neural networks, dynamics variables, unit properties of neurons, properties of netlet, dynamics of individual networks, time evolution of neuronal action)
- Networks with external connections (Connection of individual neural networks with fixed inputs, mathematical model
to reduce memory with age)
- Neural networks with chemical markers (Dynamics of individual neural networks with chemical markers, temporal
Evolution of neuronal action, preserved inputs and multiple memory fields, discussion and conclusions with introduction
chemical indicators)
- Noisy neural networks (Noisy neural networks describing fields of memory, mathematical development of model - Hypotheses and definitions, unit properties, dynamics of individual neural networks with chemical markers that
exhibit spontaneous action, sustained inputs to neural networks with noise, discussion and conclusions in noisy
neural networks)
- Noisy neural networks describing epileptic phenomena (Introduction, methods, results, discussion and conclusions)
- Display of cyclic rhythms in artificial neural networks (Introduction, methods, basic assumptions of the model, the table
or neural network state vector, results, discussion and conclusions for the model)
- Evoked potentials in artificial neural networks (Introduction, methods, model hypotheses, results, discussion and conclusions)
- Neural model for α-rhythm (Introduction, methods, results, discussion and conclusions)
- Review of recent international literature

Laboratory Exercises

- Use of computers in Octave/Matlab programming environment for computer simulations and theoretical model development and assessment
- Combine computer simulation results with magnetoencephalogrram (MEG) findings, derived by the use of Superconductive Quantum Interference Device (SQUID) for recording of the MEG

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, in Communication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	Workload/semester
Lectures	13
Laboratory Exercise	2
Bibliographic research& analysis	40
Project	5
Total	**60**

STUDENT EVALUATION Description of the evaluation process Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others Please indicate all relevant information about the courseassessment and how students are informed	**Student evaluation languages** English **Method (Formative or Concluding)** **Formative**

Student evaluation methods	Percent
Oral exam	50
Written exam with short answer questions	50

5 Suggested Bibliography

Introduction to Neural and Cognitive Modeling (Author) Levine Daniel Publisher: ROUTLEDGE, Pages: 466, ISBN: 9781848726482, Cover: Paperback, Version Number: 3, Year of publication: 2019

EEG Signal Processing and Machine Learning (Authors) Saeid Sanei, Jonathon A. Chambers, Publisher: John Wiley & Sons Ltd., Print ISBN:9781119386940 |Online ISBN:9781119386957 |DOI:10.1002/9781119386957, 2022

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	ΙΑΤΓΕ07	SEMESTER	WINTER
COURSE TITLE	**NEUROSCIENCE PHYSIOLOGY**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge, Scientific Area, Skill Development	SCIENTIFIC AREA
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	https://eclass.duth.gr/courses/ALEX06183/

2 LEARNING OUTCOMES

Learning Outcomes
Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon successful completion of the course the student will be able to:
- Learn and understand basic principles of nervous system function
- Learn the historical development of neuroscience and how it contributed and contributes to the understanding of higher functions of the human body
- Learn modern methods of studying the human brain at molecular, cellular and organism level
- Understand the basic principles of bioethics that should govern research in humans and laboratory animals

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas
Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

- Research, analysis and composition of data and information
- Decision making
- Autonomous work
- Team work
- Production of new research ideas
- Project design
- Sustainability
- Equity and Inclusion, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking

3 COURSE CONTENT

- Theoretical (updated every academic year):
- History of Neurosciences
- Basic principles of operation of the NS Communication and adaptation of neurons
- Development of NS
- Role of hormones
- Factors affecting growth
- Learning and memory
- Cerebral asymmetry
- Brain aging – Neurodegenerative diseases
- Research methods in neuroscience
- Animals in Research – Models and Dilemmas

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face Distance Learning (when applicable)
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY	Use of ICT in Teaching Use of ICT in Communication with students

(ICT) Use of ICT in Teaching, in Laboratory Education, inCommunication with students	
TEACHING ORGANIZATION The ways and methods of teaching are described in detail. Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	Workload/semester
Lectures	13
Tutoring	10
Bibliographic research& analysis	20
Project	10
Essay	7
Total	**60**

STUDENT EVALUATION Description of the evaluation process Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others Please indicate all relevant information about the courseassessment and how students are informed	**Student evaluation languages** English **Method (Formative or Concluding)** Formative

Student evaluation methods	Percent
Written exam with multiple choice test	15
Written exam with short answer questions	15
Essay	40
Public presentation	30

5 Suggested Bibliography

Powerpoint presentations

- Relevant bibliography from pubmed and other websites presented and renewed annually
- **Suggested books:**

1. **Neuroscience: Exploring the Brain, Enhanced Edition:** by Mark Bear (Author), Barry Connors (Author), Michael A. Paradiso (Author), ISBN 13 978-1284211283, 4th edition, Jones & Bartlett

Learning Publishers, 2020

2. **Neuroscience**, by Dale Purves (Editor), George J. Augustine (Editor), David Fitzpatrick (Editor), William C. Hall (Editor), Anthony-Samuel LaMantia (Editor), Richard D. Mooney (Editor), Michael L. Platt (Editor), Leonard E. White (Editor), Sinauer Associates is an imprint of Oxford University Press; 6th edition (October 12, 2017), ISBN-13 : 978-1605353807

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATAE05	SEMESTER	SUMMER
COURSE TITLE	**HEALTH INFORMATION SYSTEMS**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labsetc. If the ECTS Credits are awarded to the whole course, then please indicate theteaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	13	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	Scientific Area
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	https://eclass.duth.gr/courses/ALEX06103/

2 LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon successful completion of the course, the student will be able to:

- to recognize health information systems,
- interpret Hospital Integrated Information Systems and identify their subsystems, their architecture, their characteristics, their applications and their necessity,
- to manage and enter data into an OSSN,
- to be convinced of the use of PNRS and support its necessity.

General Skills Name the desirable general skills upon successful completion of the module Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning
The course strengthens the following general skills: − Work in an interdisciplinary environment − Teamwork − Generating new research ideas − Search analysis and synthesis of data and information using the necessary technologies − Adaptation to new situations

3 COURSE CONTENT

− Interoperability protocols DICOM, HL7, ICD-10 − Introduction to data mining − Medical data security − Applications of information systems in health − Database management system − Databases − Database manipulation

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, in Communication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students

TEACHING ORGANIZATION
The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc.

The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards

Activity	Workload/ semester
Attending theoretical teaching	11
Monitoring workshops	2
Study of course material (slides, book)	20
Study of relevant scientific articles	10
Unguided practice in a computing environment	2
Preparation of individual work and presentation	10
Total	**55**

STUDENT EVALUATION
Description of the evaluation process

Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others

Please indicate all relevant information about the courseassessment and how students are informed

Student evaluation languages
English

Method (Formative or Concluding)
Formative

Written examination.

5 Suggested Bibliography

M. Glava , 7 in 1 Windows 8 - Office 2013: STEP BY STEP, Edition: 1/2014, Book code in Eudoxos : 41957392

COURSE OUTLINE

1 GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	DEPARTMENT OF MEDICINE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	IATAE03	SEMESTER	SUMMER
COURSE TITLE	**TELEMATICS APPLICATIONS FOR HEALTH**		

TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
	1	2.0

COURSETYPE Background, General Knowledge,Scientific Area, Skill Development	Scientific Area
PREREQUISITES	No
TEACHING & EXAMINATION LANGUAGE:	English
COURSE OFFERED TO ERASMUSSTUDENTS:	Yes
COURSE URL:	https://eclass.duth.gr/courses/ALEX06103/

2 LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon successful completion of the course, the student will be able to:

- To define the concepts: telematics, telemedicine, telediagnosis , teleconferencing, telelearning , Telework, teleconsultation , electronic file and health card.
- To recognize the advantages and usefulness of telemedicine.
- Categorize the various telemedicine platforms and applications.
- To use applications of telemedicine , telelearning , teleconferencing and telecommuting.
- To judge which application to use in each case.

- To deal with telediagnosis , teleconsultation and teleeducation problems using telemedicine.
- To feel the need to use telemedicine to help patients in remote areas and the elderly who cannot move.
- distance learning and distance counseling services in any case.

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use, Adaptation to new situations, Decision making, Autonomous work, Teamwork, Working in an international environment, Working in an interdisciplinary environment, Production of new research ideas

Project design and management Equity and Inclusion, Respect for the natural environment, Sustainability, Demonstration of social, professional and moral responsibility and sensitivity to gender issues, Critical thinking, Promoting free, creative and inductive reasoning

The course strengthens the following general skills:

- Teamwork.
- Work in an interdisciplinary environment.
- Generating new research ideas.
- Search analysis and synthesis of data and information using the necessary technologies.
- Adaptation to new situations.

3 COURSE CONTENT

- Telematics
- Electronic file and electronic health card
- Standards in telemedicine
- Telediagnosis & Collaborative diagnosis
- Teleconsultation
- Telemedicine services
- Distance learning
- Telemedicine technology
- Applications of telemedicine in various specialties

− Video conference − Telecommuting − Sophisticated telemedicine systems

4 LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, in Communication with students	Use of ICT in Teaching Use of ICT in Laboratory Education Use of ICT in Communication with students
TEACHING ORGANIZATION The ways and methods of teaching are described in detail.Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study/creation, project, creation, project. Etc. The supervised and unsupervised workload per activity isindicated here, so that total workload per semester complies to ECTS standards	

Activity	**Workload/ semester**
Attending theoretical teaching	11
Monitoring workshops	2
Study of course material (slides, book)	20
Study of relevant scientific articles	10
Unguided practice in a computing environment	2
Preparation of individual work and presentation	10
Total	**55**

STUDENT EVALUATION Description of the evaluation process Assessment Language, Assessment Methods, Formative orConcluding, Multiple Choice Test, Short Answer Questions,Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others Please indicate all relevant information about the courseassessment and how students are informed	**Student evaluation languages** English **Method (Formative or Concluding)** Formative Written examination.

5 Suggested Bibliography

GORTZIS ELEFTHERIOS, MEDICAL INFORMATION AND TELEMEDICINE SERVICES, DISIGMA IKE PUBLICATIONS Edition: 3/2013. Book Code in Eudoxos : 77112340