Postgraduate PROGRAM
«Clinical and Industrial Pharmacology - Clinical Toxicology»

Study Guide
of the current academic year

CONTENTS

1. GENERAL -

1.1 The School of Medicine

The School of Medicine is one of the four Schools of the Faculty of Health Sciences, Aristotle University of Thessaloniki.

It was founded as Medical Faculty of the Aristotle University of Thessaloniki in 1942, during the German occupation of Greece. Its establishment took place 17 years after the foundation of Aristotle University. The cause of such a delay should be attributed, beyond others, to the opposition of the local medical force at those years. The medical students of the first academic year (1942-43) encountered the number of 385, and were mainly males - 274 students. According to the chronicles entitled "63 years of Medical School": some of the major problems that the fledging Medical School had to face were the difficulty of the elected professors to move from Athens, the dismissal and their reappointment after country's liberation and the minimal infrastructure of the School. The initial professors were: N. Michalakeas, A. Kotsaftis, S. Samaras, N. Klisiounis, K. Iliakis, G. Pangkalos, G. Hatzivassiliou, G. Deligiannis, K. Alexandridis, M. Petzetakis, P. Fotinos and S. Veras.

The main goal of the School of Medicine of the Faculty of Health Sciences, Aristotle University is to educate the medical students as well as to provide Greece health professionals with the highest scientific standards. An additional aim is to make high quality research either by itself or in collaboration with other Greek and international research centers. During their undergraduate studies the students participate in various research programs of laboratories and departments. These outcomes are mainly presented in the annual Medical Congress of the School of Medicine.

The main educational goal of the School is the dissemination of ethical values that govern the medical practice to students as well as to ensure that the young medical doctors will acquire all scientific knowledge which will enable them to diagnose and effectively manage medical problems after obtaining their degree. Moreover, the faculty of the School of Medicine is the stuff of several hospitals as well as other units of the National Health System, and thus provides an important social work.

The undergraduate curriculum of the School of Medicine consists of six years the first five years are divided into semesters. During the first two years, the courses are mainly dedicated to basic sciences, while the involvement to the clinical practice initiates at third year. Upon successful completion of the studies, the students receive the Medical Degree (Ptychion Iatrikes) (which is an agreement with point 5.1.1 of the 5th Annex of the EU Directive 2005/36/EC) and authorizes the medical profession practice both in the Public as well as Private Sector.

The School of Medicine offers Postgraduate Programs, some of them are Interdepartmental/ Interinstitutional Postgraduate Programs where the School of Medicine is the Host School. Moreover, the School of Medicine participates in six more Interdepartmental / Interinstitutional Postgraduate Programs where it is just a Coactive School.

One of the Postgraduate Programs of the School of Medicine is the «Clinical and Industrial Pharmacology - Clinical Toxicology».

1.2 Administrative Bodies of the Postgraduate Programs, according to the provisions of Law (articles *81 and 82 of L.4957/2022*), for the administration, organization and operation are the following:

1.The Senate of the University
2. The General Assembly of the School
3. The Coordination Committee of the Postgraduate Program
4. The Head of the Postgraduate Program

2. POSTGRADUATE PROGRAM

2.1 Entry requirements

This Postgraduate Degree program accepts graduates of:

PTYCHIO (Degree from University in Greece, from a recognized foreign institution of equivalent status, from a Technological Education Institute).
Graduates of:
1. Medicine, Dentistry, Veterinary Medicine, Pharmacy, Biology, Chemistry, Biochemistry and Biotechnology, Molecular Biology - Genetics and Nursing in Greece or equivalent recognized institutions abroad.
2. Also accepts graduates: of Technological Education Institutes: with degrees in Nursing or other Healthcare Professions in Greece or equivalent recognized Institutions abroad, with proven relevant professional experience, after C.V. evaluation and interview.
To obtain their degree from the MSc Studies Program: "Clinical and Industrial Pharmacology - Clinical Toxicology" School of Medicine, Faculty of Health Sciences, postgraduate students have to attend and successfully complete 13 compulsory courses, which correspond to 60 ECTS and compose and successfully defend their Postgraduate Thesis which corresponds to 30 ECTS. (Hellenic Government Gazette No B/2805-22/12/2015).

The Postgraduate Program awards a Postgraduate Diploma with the title "Clinical and Industrial Pharmacology - Clinical Toxicology", in the following specializations:

1. Clinical Pharmacology and Pharmaceutical Medicine
2. Industrial Pharmacology
3. Clinical Toxicology

2.2 Duration of the Postgraduate Program:

The Postgraduate Program "Clinical and Industrial Pharmacology - Clinical Toxicology" is a Full-time program, in 3 Semesters, with 90 ECTS.

A full academic year is equivalent to 60 ECTS units and each semester to 30 ECTS (European Credit Transfer System) (1 ECTS=25-30 hours). Compliance with the ECTS (European Credit Transfer and Accumulation System) regulations started tin 2007, when the Greek Legislation was harmonized with the relevant European one (Ministerial Decision No F5/89656/B3, art. 1-3, Hellenic Government Gazette No 1466/2007/B).

2.3 Grading scheme - examination:

Examinations are held with on – line quizzes through elearning.auth.gr platform, assessment and grading.

A scale of 1 to 10 applies to the marks of each subject in the Hellenic Higher Education. The grading scheme for the qualification of the Interdisciplinary Postgraduate Study Program follows the following distribution: (Ministerial Decision No F.1231/B1/425 art. 60, Hellenic Government Gazette No 1099//2000/B):

Excellent (Arista): 8,50 - 10,00
Very Good (Lian Kalos): 6,50 - 8,49
Good (Kalos): 6,00 - 6,49
Fail (Anepitychos): 0,00 - 5,99
Minimum passing grade: 6,00 (six) (AUTh Rule of Procedure, No 127/2-2-2011).

2.4 Graduation requirements:

3 Semesters, 90 ECTS.

A full academic year is equivalent to 60 ECTS units and each semester to 30 ECTS (European Credit Transfer System) (1 ECTS=25-30 hours). Compliance with the ECTS (European Credit Transfer and Accumulation System) regulations started tin 2007, when the Greek Legislation was harmonized with the relevant European one (Ministerial Decision No F5/89656/B3, art. 1-3, Hellenic Government Gazette No 1466/2007/B).

2.5 Language of Instruction:

The Postgraduate Program "Clinical and Industrial Pharmacology - Clinical Toxicology" taught only in Greek.

2.6 The Postgraduate Program objectives are:

1. The specialized and in-depth theoretical training of postgraduate students in one of the three offered scientific disciplines (Clinical Pharmacology and Pharmaceutical Medicine, Industrial Pharmacology and Clinical Toxicology).
2. The active and multifaceted participation of postgraduate students in the discipline of their interest and subsequent professional engagement in research, in the pharmaceutical industry and/or in clinical practice
3. The formal and structured participating of postgraduate students in research activities and thesis composition and defense.

Graduates of the MSc Studies Program: ''Clinical and Industrial Pharmacology - Clinical Toxicology'' are expected to know, understand and be able to apply principles of the scientific disciplines taught in the program (pharmacokinetics, pharmacodynamics, pharmacogenetics, pharmacogenomics, toxigenomics, design and conducting of pharmacological studies,

pharmaceutical technology, pharmacoepidemiology, pharmacoeconomics, pharmaceutical marketing, management of pharmaceutical companies, drug pricing, compensation negotiation with insurers and regulatory agencies, etc.) in their professional activities.
1. Clinical Pharmacology and Pharmaceutical Medicine is a medical specialty whose scope includes improving patient care by promoting the safer and more effective use of medicines and the provision of services, such as medicine information, prescribed medicines analysis, monitoring of medicine abuse and advice on the experimental design of clinical studies.
2. Industrial Pharmacology examines how the pharmaceutical industry works and how it is involved in all processes related to the development, licensing, production and distribution of pharmaceutical products.
3. Clinical Toxicology is scientific field discipline closely related to Clinical Pharmacology in many EU countries. Its scope includes the prevention, treatment and therapeutic monitoring of diseases or poisonings caused by intended or unintended and unnecessary use of medicines and poisons or toxins.

2.7 Access to studies:
The qualification is a terminal award and allows access to doctoral studies.

2.8 Professional status:
Professional qualification is not applicable in the public or private sector.

3. DESCRIPTION and COURSES

3.1 Catalog courses

Faculty	Health Sciences
School	Medicine
Qualification Awarded	CLINICAL AND INDUSTRIAL PHARMACOLOGY - CLINICAL TOXICOLOGY
Program of Study	*PPS* Clinical and Industrial Pharmacology - Clinical Toxicology
Cycle / Level	2nd / Postgraduate
Academic Year	2023 - 2024
Status	Active
Website	http://cip.web.auth.gr/
Contact email	info_cip@auth.gr
ECTS / Workload	One ECTS unit corresponds to 30 hours of workload.

Courses of the 1st semester
Core

1st semester
7 classes

Code	Title	ECTS	Type
ΜΙΦΑ0017	Philosophy, Ethics and drug Legislation.	3	COR
ΜΙΦΑ0018	Basic principles and concepts of Phrarmacology	5	COR
ΜΙΦΑ0019	Pharmaceutical research and drug development.	5	COR
ΜΙΦΑ0020	Biostatistics I	4	COR
ΜΙΦΑ0021	Bioinformatics- Biostatistics II	4	COR
ΜΙΦΑ0022	Research Methodology and Evidence Based Medicine	4	COR
ΜΙΦΑ0023	Clinical Pharmacology I	5	COR

Courses of the 2nd semester
Clinical Pharmacology and Pharmaceutical Medicine

2nd semester
6 classes

Code	Title	ECTS	Type
ΜΙΦΒ0024	Clinical Pharmacology II - Health Technology Assesment	5	ComSC
ΜΙΦΒ0025	Pharmacoepidemiology - Pharmacovigilance	5	ComSC
ΜΙΦΒ0026	Clinical Toxicology	5	ComSC
ΜΙΦΒ0027	Medical Clinical Nutrition	5	ComSC
ΜΙΦΒ0028	Pharmacoeconomics - Business Pharmaceutical Administration	5	ComSC
ΜΙΦΒ0029	Pharmaceutical Sales - Pharmaceutical Marketing - Market access	5	ComSC

Industrial Pharmacology

2nd semester
6 classes

Code	Title	ECTS	Type
ΜΙΦΒ0024	Clinical Pharmacology II - Health Technology Assesment	5	ComSC
ΜΙΦΒ0025	Pharmacoepidemiology - Pharmacovigilance	5	ComSC
ΜΙΦΒ0026	Clinical Toxicology	5	ComSC
ΜΙΦΒ0027	Medical Clinical Nutrition	5	ComSC
ΜΙΦΒ0028	Pharmacoeconomics - Business Pharmaceutical Administration	5	ComSC
ΜΙΦΒ0029	Pharmaceutical Sales - Pharmaceutical Marketing - Market access	5	ComSC

Clinical Toxicology

2nd semester
6 classes

Code	Title	ECTS	Type
ΜΙΦΒ0025	Pharmacoepidemiology - Pharmacovigilance	5	ComSC
ΜΙΦΒ0026	Clinical Toxicology	5	ComSC
ΜΙΦΒ0030	General Toxicology	5	ComSC

Code	Title	ECTS	Type
ΜΙΦΒ0031	Bioanalysis - Biopharmaceutical analysis	5	ComSC
ΜΙΦΒ0032	Analytical Toxicology	5	ComSC
ΜΙΦΒ0033	Judicial Toxicology	5	ComSC

Courses of the 3rd semester
Core

3rd semester
1 class

Code	Title	ECTS	Type
ΜΙΦΓ0034	Postgraduate Thesis	30	COR

3.2 Description courses forms

3.2.1 Semester A

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΑ0017	**SEMESTER**	1
TITLE	*Philosophy, Ethics and drug Legislation.*		
Autonomous Didactic Activities		**HOURS OF INSTRUCTION**	**ECTS**
Lectures Written assigments Exams			
		2	3.0000
TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Specific Foundation / Core		
PREREQUISITES:			
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)		
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:			
URL:	https://qa.auth.gr/class/1/600218024		

(2) LEARNING OUTCOMES

Learning Outcomes
When successfully completing attendance of the course, postgraduate students will know Philosophy of education, Bioethics and the current legal framework related to medicine. They will know the Philosophical currents that influenced the philosophy education, medical thought, knowledge and aesthetics, the bioethical consideration related to the practice of medicine and the use of drugs as a therapeutic tool and the current legal framework regarding the development of new drugs, their approval and licensing and their invoicing and compensation procedures by the
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Adapt to new situations, Advance free, creative and causative thinking	

(3) COURSE CONTENT

Fundamentals of Philosophy Education, Knowledge, Thought and Aesthetics/Scientific of Medicine and Clinical Pharmacology/ Medical Ethics and Ethics of Biomedical Research/ National - European Legislation for conducting human studies / National - European Medicines Legislation (approvals & drug pricing)

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 73 Written assigments 5 Exams 12 Total 90

STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:* Written Exam with Multiple Choice Questions (Formative,Summative), Written Assignment (Summative)

(5) BIBLIOGRAPHY

- Course bibliography: Υλικό (σημειώσεις, επιστημονικά άρθρα, σχετικοί νόμοι & υπουργικές αποφάσεις, κλνικές οδηγίες) αναρτημένο στη σελίδα του μαθήματος στον ιστοχώρο elearning του ΑΠΘ. *- Additional bibliography for study:*

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΑ0018	**SEMESTER**	1
TITLE	*Basic principles and concepts of Phrarmacology*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Reading Assigment Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	General Foundation
PREREQUISITES:	
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218027

(2) LEARNING OUTCOMES

Learning Outcomes
Upon successfully completing the course, students will be able to:1. Have a clear understanding of the basic principles of Pharnacology 2. Understand the mechanisms of drug actions and drug-drug interactions3. Understand the bioequivalence studies4. Understand the pharmacological profile of biological and biosimilar drugs and the differences with the tradional drugs
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Make decisions, Work autonomously, Work in teams, Generate new research ideas, Advance free, creative and causative thinking	

(3) COURSE CONTENT

Introduction into PharmacologyPharmaceutical Dosage formsPharmacodynamicsPharmacokinetics-Clinical PharmacokineticsBioequivalence studiesBiopharmaceuticals and biosimilars drugsBiomarkers in Pharmacology

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 125 Reading Assigment 10 Exams 15 Total 150

STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:* Written Exam with Multiple Choice Questions (Formative,Summative), Written Exam with Short Answer Questions (Summative), Oral Exams (Summative)

(5) BIBLIOGRAPHY

- Course bibliography:
Υλικό (σημειώσεις, επιστημονικά άρθρα, σχετικοί νόμοι & υπουργικές αποφάσεις, κλνικές οδηγίες) αναρτημένο στη σελίδα του μαθήματος στον ιστοχώρο elearning του ΑΠΘ.

- Additional bibliography for study:

TRC Pharmacology Database:Version 5-4-2018, Centre for Human Drug Research & Leiden University Medical Center, the Netherlands

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΑ0019	**SEMESTER**	1
TITLE	*Pharmaceutical research and drug development.*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Reading Assigment Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Specific Foundation / Core
PREREQUISITES:	
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218028

(2) LEARNING OUTCOMES

Learning Outcomes

When successfully completing attendance the students will possess the relevant theoretical background and skills needed to understand and participate in research and professional activities in pharmaceutical research and drug development.

General Competences

Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?

Retrieve, analyse and synthesise data and information, with the use of necessary technologies

Adapt to new situations

Make decisions

Work autonomously

Work in teams

Work in an international context

Work in an interdisciplinary team

Generate new research ideas

Design and manage projects

Appreciate diversity and multiculturality

Respect natural environment

Demonstrate social, professional and ethical commitment and sensitivity to gender issues

Be critical and self-critical

Advance free, creative and causative thinking

……

Other…

…….

Work autonomously, Work in an international context, Work in an interdisciplinary team, Generate new research ideas, Design and manage projects, Demonstrate social, professional and ethical commitment and sensitivity to gender issues, Be critical and self-critical, Advance free, creative and causative thinking

(3) COURSE CONTENT

Introduction, ppreclinical testing of active substances, clinical testing of active substances, post-marketing surveillance, environmental risk assessment, GLP/GCP, developing biologicals/hybrid/advanced medicinal products

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 16 Reading Assigment 133 Exams 2 Total 151
STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* Written, online administered, exam (e-quiz) consisting of multiple choice questions *Assessment methods:* Written Exam with Multiple Choice Questions (Summative)

(5) BIBLIOGRAPHY

- Course bibliography:

- Additional bibliography for study:

ΣΥΓΓΡΑΜΜΑ/Book-Principles & Practice of Clinical Research, Glossary of Clinical Trial Terms, PRECLINICAL TESTING STRATEGIES, Guidance for Industry E6 Good Clinical Practice:Consolidated Guidance, Articles, Publications.

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΑ0020	**SEMESTER**	1
TITLE	*Biostatistics I*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Written assigments Exams		
	2	4.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	General Foundation
PREREQUISITES:	
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218031

(2) LEARNING OUTCOMES

Learning Outcomes
Prepare and check a datasetPerform the appropriate statistical analysisInterpretation and assessment of the resultsSelection and calculation of the appropriate sample size

General Competences

Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?

Retrieve, analyse and synthesise data and information, with the use of necessary technologies	*Design and manage projects*
Adapt to new situations	*Appreciate diversity and multiculturality*
Make decisions	*Respect natural environment*
Work autonomously	*Demonstrate social, professional and ethical commitment and sensitivity to gender issues*
Work in teams	*Be critical and self-critical*
Work in an international context	*Advance free, creative and causative thinking*
Work in an interdisciplinary team	*……*
Generate new research ideas	*Other…*
	…….

Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Make decisions, Work in an interdisciplinary team, Design and manage projects, Be critical and self-critical

(3) COURSE CONTENT

1. Introduction to statistics2. Populations and samples3. Manage a database4. Descriptive statistical measures and normality testing5. Comparison of quantitative variables between 2 or more samples6. Relationship between two quantitative variables7. Multivariate linear dependence8. Relationship between qualitative variables9. Logarithmic dependence10. Survival analysis11. Sample size calculation12. Final evaluation

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Laboratory Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 26 Written assigments 46 Exams 48 Total 120
STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* Statistical analysis and evaluation of database processingMultiple choice questionsFinal evaluation *Assessment methods:* Written Exam with Multiple Choice Questions (Formative,Summative), Written Exam with Problem Solving (Formative,Summative)

(5) BIBLIOGRAPHY

- Course bibliography:

Αρβανιτίδου-Βαγιωνά Μ, Χάιδιτς Α-Μ. Ιατρική Στατιστική: Βασικές αρχές. Εκδόσεις University Studio Press 2013.

- Additional bibliography for study:

Peat J, Barton B.Medical statistics: a guide to data analysis and critical appraisal. Blackwell Publishing Ltd 2005

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΑ0021	**SEMESTER**	1
TITLE	*Bioinformatics- Biostatistics II*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Laboratory Work Reading Assigment Written assigments Exams		
	2	4.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	General Foundation
PREREQUISITES:	ΜΙΦΑ0020 Biostatistics I
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218034

(2) LEARNING OUTCOMES

Learning Outcomes
By the end of this course students will be able to:-understand the basic concepts of computer science and the basic software tools that are relevant to the subject of pharmacology-realize the importance of managing information through software systems and decision support systems and be able to implement them in practice-adopt new technologies in their lifelong learning-be aware of the latest software tools in the field of pharmaceutical research and practice (desktop and mobile)-be aware of the importance of specific research topics related to pharmacology and the search for data and bibliographic sources-use advanced statistical methodologies for pharmaceutical research-apply multifactorial analysis, completeness check of the assumptions of each multifactor model, and choice of final model
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Adapt to new situations, Make decisions, Work autonomously, Generate new research ideas, Be critical and self-critical, Advance free, creative and causative thinking	

(3) COURSE CONTENT

Health Informatics - Introduction, modern concepts, applications and toolsOpen and interconnected data. Big data: Principles of learning and extracting knowledge about adverse drug reactionsOnline pharmacology databases. DrugBank: Search and export of information using open interconnected data techniques.Research surveys - organization and implementation workshopTools and technologies for organizing research and writing the bibliographyMulti-factorial linear dependenceMultifactorial regression and dependenceMulti-factorial risk Cox model

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Laboratory Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 100 Laboratory Work 3 Reading Assigment 3 Written assigments 4 Exams 10 Total 120

STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:* Written Exam with Multiple Choice Questions (Summative), Written Assignment (Formative,Summative), Oral Exams (Formative)

(5) BIBLIOGRAPHY

- Course bibliography:

Cimino J., Shortlife (2013) Βιοπληροφορική-Εφαρμογές Υπολογιστών στη Φροντίδα Υγείας και τη Βιοϊατρική, BROKEN HILL PUBLISHERS LTD. κωδικός στον ΕΥΔΟΞΟ: 13256855

- Additional bibliography for study:

-Π. Μπαμίδης, Κ. Παπάς, Ιατρική Πληροφορική & Διαδίκτυο στις Σύγχρονες Υπηρεσίες Υγείας, Έκδοση) Υγειονομική Περιφέρεια Μακεδονίας, Θεσσαλονίκη, 2008-συμπληρωματικά διανέμονται και δωρεάν ηλεκτρονικές σημειώσεις στο elearning.auth.gr

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΑ0022	**SEMESTER**	1
TITLE	*Research Methodology and Evidence Based Medicine*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Seminars Reading Assigment Project Written assigments		
	2	4.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	General Foundation
PREREQUISITES:	
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination), English (Instruction)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218036

(2) LEARNING OUTCOMES

Learning Outcomes
Main objectives of the course:1. Deepening the research methodology2. The approach of the theory of evidence-based medicine and evidence-based methods of medical research3. The practice of searching for documented research information4. The study of research data with the criteria of documented medicine
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Adapt to new situations, Make decisions, Work autonomously, Work in teams, Work in an interdisciplinary team, Generate new research ideas, Be critical and self-critical	

(3) COURSE CONTENT

1. Introduction, History and Philosophy of EBM,2. Basic elements of research methodology and research design3. Organization and documentation of an experimental protocol4. Examples of Internet searches for documented information5. Organization and documentation of a clinical study6. Examples and evaluation of documentation in a clinical study7. Systematic Review and Post-Analysis8. Organization, preparation and writing of a scientific paper9. The role of EBM in diagnosis and prognosis10. The role of EBM in clinical practice11. EBM in Qualitative and Quantitative Research12. Questionnaire research methodology

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 50 Seminars 24 Reading Assigment 30 Project 8 Written assigments 8 Total 120

STUDENT ASSESSMENT	*Description of the procedure:*
Description of the procedure *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	1. Written assignment2. Completing a questionnaire at the end of each two-hour period3.Exams with multiple choice questions at the end of the unit *Assessment methods:* Written Exam with Multiple Choice Questions (Formative), Written Exam with Short Answer Questions (Formative), Performance / Staging (Formative)

(5) BIBLIOGRAPHY

- Course bibliography:

ΤΕΚΜΗΡΙΩΜΕΝΗ ΙΑΤΡΙΚΗ Κωδικός Βιβλίου στον Εύδοξο: 1908 Έκδοση: ΤΡΙΤΗ/2010 Συγγραφείς: Sharon E. Straus ISBN: 978-960-6894-13-8 Τύπος: Σύγγραμμα Διαθέτης (Εκδότης): ΧΑΒΑΛΕΣ Α - ΧΑΤΖΗΣΥΜΕΩΝ Κ ΟΕ

- Additional bibliography for study:

Guyatt G, Rennie D, Meade MO, Cook DJ, eds. Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice. 2nd Ed. New York, NY: McGraw-Hill; 2008. Straus SE, Glasziou P, Richardson WS, Haynes RB. Evidence-Based Medicine. How to practice and teach EBM. Edinburg: Elsevier Churchill Livingstone, Fourth Edition, 2011. Gray, J. A. Muir (2009). Evidence-based health care & public health. Edinburgh: Churchill Livingstone. Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS (1996). "Evidence based medicine: what it is and what it isn't". BMJ 312 (7023): 71–2. Katz, David L. (2001). Clinical Epidemiology & Evidence-Based Medicine: Fundamental Principles of Clinical Reasoning & Research. SAGE. Rosenberg W, Donald A (1995). "Evidence-based Medicine: An approach to Clinical Problem Solving". BMJ 310: 1122–6. Greenhalgh, Trisha (2010). How to Read a Paper: The Basics of Evidence-Based Medicine (4th ed.). John Wiley & Sons. p. 1. Greenhalgh, Trisha (December 2001). "The limits of evidence-based medicine". Respiratory care 46 (12): 1435–40. Eddy, DM (2005). "Evidence-based Medicine: a Unified Approach". Health Affairs 24 (1): 9–17.

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΑ0023	**SEMESTER**	1
TITLE	*Clinical Pharmacology I*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Specific Foundation / Core
PREREQUISITES:	
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218039

(2) LEARNING OUTCOMES

Learning Outcomes
Upon successfully completing the course, students will be able to:1. Understand the role of the Clinical Pharmacologist in research, teaching, consultation and regulatory authorities2. Understand the principles of pre-marketing trials (Clinical trials phase I, II,III) and post-marketing trials (phase IV)3. Prescribe rationally using evidence based medicine4. customize dose in patients with liver and renal insufficiency5. Understand the differences of drug treatment inspecial patients population (pregnant, children elderly), in comorbidities and polypharmacy6. Understand the principles of pharmacoepidemiology7. Understand the value of pharmacovigilance, drug safety and patient safety Use the basic principles of Pharmacology to acquire a working knowledge of the properties of individual drugs to be learned in Systemic Pharmacology8. Complete the yellow card scheme9. Understand the principles of pharmacoeconomics10. Understand the principles of Health Technology Assesment
General Competences
Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Adapt to new situations, Make decisions, Work in teams, Work in an international context, Work in an interdisciplinary team, Generate new research ideas, Appreciate diversity and multiculturality, Respect natural environment, Demonstrate social, professional and ethical commitment and sensitivity to gender issues, Be critical and self-critical, Advance free, creative and causative thinking	

(3) COURSE CONTENT

1. The role of the Clinical Pharmacologist in research, teaching, consultation and regulatory authorities2. Drug Research and development (Clinical trials Phase I,II,III,IV)3. Evidence based Medicine and rational prescribing4. Special Patient Population and high risk patients (children, elderly, pregnant, renal-liver insufficiency, comorbidities, polypharmacy)5. Pharmacoepidemiology-pharmacovigilance6. Regulatory authorities- Pharmacoeconomics7. Health Technology Assesment (drug and medical devices)

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 135 Exams 15 Total 150

STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:* Written Exam with Multiple Choice Questions (Formative,Summative), Written Assignment (Summative)

(5) BIBLIOGRAPHY

- Course bibliography: *- Additional bibliography for study:* Άρθρα,σημειώσεις και ηλεκτρονικές διευθύνσεις με βιβλιογραφία και σχετικό υλικό.

3.2.2 Semester B

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΒ0024	**SEMESTER**	2
TITLE	*Clinical Pharmacology II - Health Technology Assesment*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Specific Foundation / Core
PREREQUISITES:	ΜΙΦΑ0017 Philosophy, Ethics and drug Legislation. , ΜΙΦΑ0018 Basic principles and concepts of Phrarmacology , ΜΙΦΑ0019 Pharmaceutical research and drug development., ΜΙΦΑ0020 Biostatistics I, ΜΙΦΑ0021 Bioinformatics- Biostatistics II, ΜΙΦΑ0022 Research Methodology and Evidence Based Medicine, ΜΙΦΑ0023 Clinical Pharmacology I
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218233

(2) LEARNING OUTCOMES

Learning Outcomes
Upon successfully completing the course, students will be able to:1. Understand the role of the Clinical Pharmacologist in research, teaching, consultation and regulatory authorities2. Understand the principles of pre-marketing trials (Clinical trials phase I, II,III) and post-marketing trials (phase IV)3. Prescribe rationally using evidence based medicine4. customize dose in patients with liver and renal insufficiency5. Understand the differences of drug treatment inspecial patients population (pregnant, children elderly), in comorbidities and polypharmacy6. Understand the principles of pharmacoepidemiology7. Understand the value of pharmacovigilance, drug safety and patient safety Use the basic principles of Pharmacology to acquire a working knowledge of the properties of individual drugs to be learned in Systemic Pharmacology8. Complete the yellow card scheme9. Understand the principles of pharmacoeconomics10. Understand the principles of Health Technology Assesment
General Competences
Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Adapt to new situations, Make decisions, Work in teams, Work in an international context, Work in an interdisciplinary team, Generate new research ideas, Appreciate diversity and multiculturality, Respect natural environment, Demonstrate social, professional and ethical commitment and sensitivity to gender issues, Be critical and self-critical, Advance free, creative and causative thinking	

(3) COURSE CONTENT

The Regulatory of Health Technology Assessment.Principles of pharmacotherapy in children.Pharmaco-economic evaluation (examples).Difficulties in the administration and evaluation of drugs in older people. Tackling polypharmacy. Safety specifications in clinical studies.Pregnancy - Breastfeeding.Example of clinical drug evaluation.Therapeutic Protocols / Therapy.Regulatory authorities- PharmacoeconomicsHealth Technology Assesment (drug and medical devices)

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 135 Exams 15 Total 150

STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:* Written Exam with Multiple Choice Questions (Formative,Summative), Written Assignment (Summative)

(5) BIBLIOGRAPHY

- Course bibliography:
- Additional bibliography for study:

Άρθρα, σημειώσεις και σχετικές ηλεκτρονικές διευθύνσεις.

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΒ0025	**SEMESTER**	2
TITLE	*Pharmacoepidemiology - Pharmacovigilance*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Laboratory Work Reading Assigment Project Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Specific Foundation / Core
PREREQUISITES:	ΜΙΦΑ0017 Philosophy, Ethics and drug Legislation. , ΜΙΦΑ0018 Basic principles and concepts of Phrarmacology , ΜΙΦΑ0019 Pharmaceutical research and drug development., ΜΙΦΑ0020 Biostatistics I, ΜΙΦΑ0021 Bioinformatics- Biostatistics II, ΜΙΦΑ0022 Research Methodology and Evidence Based Medicine, ΜΙΦΑ0023 Clinical Pharmacology I
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination), English (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218234

(2) LEARNING OUTCOMES

Learning Outcomes
To design a clinical pharmacoepidemiology study Group workingImprove ADR reporting culture Minimizing medication errorsTraining of the Health Care professional to fill and submit successfully the national reporting formEducating post-graduate students on PV and developing a positive ADR reporting cultureTraining on causality assessmentWHO-UMC causality assessment scale
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Adapt to new situations, Make decisions, Work autonomously, Work in teams, Work in an international context, Work in an interdisciplinary team, Design and manage projects	

(3) COURSE CONTENT

Introduction into PharmacoepidemiologyInspiration by harm in individual patientOccurrence relationCausality, counfounding, channelingPharmacoepidemiological study designGroup work: design your studyIntroduction into PharmacovigilanceDeveloping a positive ADR reporting culturePV methodsMechanisms of ADR and risk factorsSignal detectionUsing real world data to detect safety signalsLogic of causality and single case assessmentStatistical methods in signal detectionThe yellow card scheme of EOF (theory and training)

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures Laboratory Work Reading Assigment Project Exams Total

STUDENT ASSESSMENT	*Description of the procedure:*
Description of the procedure *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Assessment methods:* Written Exam with Multiple Choice Questions (Summative), Oral Exams (Summative), Written Exam with Problem Solving (Summative)

(5) BIBLIOGRAPHY

- Course bibliography: *- Additional bibliography for study:*

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	MIΦB0026	**SEMESTER**	2
TITLE	*Clinical Toxicology*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Laboratory Work Reading Assigment Written assigments Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Specific Foundation / Core
PREREQUISITES:	MIΦA0018 Basic principles and concepts of Phrarmacology , MIΦA0020 Biostatistics I, MIΦA0023 Clinical Pharmacology I, MIΦB0030 General Toxicology, MIΦB0031 Bioanalysis - Biopharmaceutical analysis, MIΦB0032 Analytical Toxicology, MIΦB0033 Judicial Toxicology
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218235

(2) LEARNING OUTCOMES

Learning Outcomes
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Make decisions, Work in teams, Work in an interdisciplinary team	

(3) COURSE CONTENT

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 48 Laboratory Work 20 Reading Assigment 5 Written assigments 15 Exams 3 Total 91
STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:* Written Exam with Multiple Choice Questions (Formative,Summative)

(5) BIBLIOGRAPHY

- Course bibliography:

- Additional bibliography for study:

1. Κλινική Τοξικολογία & Θεραπευτική Αντιμετώπιση Δηλητηριάσεων,Π. Νέου,ΕΚΔΟΣΕΙΣ ΠΑΣΧΑΛΙΔΗΣ (2007)2. Κλινική τοξικολογία - Οδηγίες στην καθημερινή ιατρική, Harris Carson R., ΠΑΡΙΣΙΑΝΟΥ ΑΝΩΝΥΜΗ ΕΚΔΟΤΙΚΗ ΕΙΣΑΓΩΓΙΚΗ ΕΜΠΟΡΙΚΗ ΕΤΑΙΡΙΑ ΕΠΙΣΤΗΜΟΝΙΚΩΝ ΒΙΒΛΙΩΝ, (2010)3. ΒΑΣΙΚΗ ΚΑΙ ΚΛΙΝΙΚΗ ΤΟΞΙΚΟΛΟΓΙΑ, ΤΣΙΦΤΣΟΓΛΟΥ ΑΣΤΕΡΙΟΣ, ΧΑΡΙΣ Μ.Ε.Π.Ε., (1997)4. Casarett & Doull Βασική Τοξικολογία (2η έκδοση), CURTIS D. KLAASSEN, JOHN B. WATKINS, ΠΑΡΙΣΙΑΝΟΥ Α.Ε., Επιμέλεια: Α. Γούλας, Ν. Ράικος, Χ. Σπηλιοπούλου, Σ. Τοπούζης, 2015

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΒ0027	**SEMESTER**	2
TITLE	*Medical Clinical Nutrition*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Reading Assigment Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	General Foundation
PREREQUISITES:	
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218236

(2) LEARNING OUTCOMES

Learning Outcomes
with successful completion of the course, students can:Understand the basics of the science of medical nutrition, the pharmacology of nutrition and the pharmacological actions that affect nutrition.The effect of diet on PharmacodynamicsDietary supplements use / restrictions in different categories of the populationNutritional needs depending on age and health status
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *……..*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Make decisions, Work in an interdisciplinary team, Generate new research ideas	

(3) COURSE CONTENT

Introduction to Medical NutritionThe effect of diet on pharmacokineticsThe pharmacology of nutrition – medicinal actions affecting nutritionThe Effect of Nutrition on PharmacodynamicsNutritional needs according to age and health status

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 125 Reading Assigment 10 Exams 15 Total 150
STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* Multiple choice questionsAssignment *Assessment methods:* Written Exam with Multiple Choice Questions (Formative,Summative), Written Assignment (Formative)

(5) BIBLIOGRAPHY

- Course bibliography:

- Additional bibliography for study:

Σχετικά άρθρα, σημειώσεις και δημοσιεύσεις.Related articles, notes and publications.

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΒ0028	**SEMESTER**	2
TITLE	*Pharmacoeconomics - Business Pharmaceutical Administration*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Seminars Project Written assigments		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Specific Foundation / Core
PREREQUISITES:	
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination), English (Instruction)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218237

(2) LEARNING OUTCOMES

Learning Outcomes
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Adapt to new situations, Make decisions, Work autonomously, Work in teams, Work in an interdisciplinary team	

(3) COURSE CONTENT

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Laboratory Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 52 Seminars 36 Project 8 Written assigments 8 Total 104

STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:* Written Exam with Multiple Choice Questions (Formative), Written Exam with Short Answer Questions (Formative), Written Exam with Extended Answer Questions (Formative)

(5) BIBLIOGRAPHY

- Course bibliography:

Marketing στις υπηρεσίες υγείας Κωδικός Βιβλίου στον Εύδοξο: 12831456 Έκδοση: 1η/2011 Συγγραφείς: Παύλος Αντ. Σαράφης ISBN: 978-960-452-132-6 Τύπος: Σύγγραμμα Διαθέτης (Εκδότης): ΒΗΤΑ ΙΑΤΡΙΚΕΣ ΕΚΔΟΣΕΙΣ ΜΕΠΕ

- Additional bibliography for study:

Pharmacoeconomics.By Tom Walley, MD, FRCP(London), FRCPI, Alan Haycox, MD and Angela Boland, MD,Elsevier Essentials of Pharmacoeconomics (Point (Lippincott Williams & Wilkins)) Second Edition by Karen Rascati PharmD PhD (Author) Pharmacoeconomics: From Theory to Practice. Renee J. G. Arnold (CRC Press)Κωσταγιόλας Π., Κατεϊλίδου Δ., Χατζοπούλου Μ. Βελτιώνοντας την ποιότητα στις υπηρεσίες υγείας, Παπασωτηρίου 2009

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΒ0029	**SEMESTER**	2
TITLE	*Pharmaceutical Sales - Pharmaceutical Marketing - Market access*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	
PREREQUISITES:	
LANGUAGE OFINSTRUCTION AND EXAMINATION:	
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218238

(2) LEARNING OUTCOMES

Learning Outcomes
Upon successfully completing the course, students will be able to know:Digital Customer Experience in PharmaMarket - The "Customer" ApproachEthicsHealth Policy in GreeceThe evolution of the National Health SystemInvention and Patent - Terminology, Patent & Data ProtectionApproval Procedures - Legal Basis, Basic Procedures, Special CasesEuropean data in the pricing processThe pricing framework in GreeceSupply chain channels and profit marginHTANegotiation and individual agreements, BIMCapture access to the drugRebates & ClawbackKey Account Management
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Work autonomously, Work in an international context, Work in an interdisciplinary team, Generate new research ideas, Design and manage projects, Demonstrate social, professional and ethical commitment and sensitivity to gender issues, Be critical and self-critical, Advance free, creative and causative thinking	

(3) COURSE CONTENT

Introduction, Goals, Digital Customer Experience in Pharma,Key Account Management, Regulatory Affairs, Compliance, Negotiation & Agreements, Patent & Data Protection, Pricing, Rebates & Clawback,

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face, Distance learning
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 135 Exams 15 Total 150
STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* Written, on-line administered , exam (e -quiz) consisting of multiple choice questions. *Assessment methods:* Written Exam with Multiple Choice Questions (Summative)

(5) BIBLIOGRAPHY

- *Course bibliography:*

- *Additional bibliography for study:*

Pharmaceutical Marketing, Dimitris Dogramatzis

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΒ0030	**SEMESTER**	2
TITLE	*General Toxicology*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Laboratory Work Reading Assigment Internship		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Knowledge Deepening / Consolidation
PREREQUISITES:	ΜΙΦΑ0017 Philosophy, Ethics and drug Legislation. , ΜΙΦΑ0018 Basic principles and concepts of Phrarmacology , ΜΙΦΑ0019 Pharmaceutical research and drug development., ΜΙΦΑ0020 Biostatistics I, ΜΙΦΑ0021 Bioinformatics- Biostatistics II, ΜΙΦΑ0022 Research Methodology and Evidence Based Medicine, ΜΙΦΑ0023 Clinical Pharmacology I
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218239

(2) LEARNING OUTCOMES

Learning Outcomes
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Work autonomously, Work in teams, Work in an international context, Work in an interdisciplinary team, Generate new research ideas	

(3) COURSE CONTENT

Principals of Toxicology, mechanisms, toxic substances, absorption, distribution, excretion of toxic substances, bio transformation, adverse effects, psychotropic substances, risk assesment

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures Laboratory Work Reading Assigment Internship Total

STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:*

(5) BIBLIOGRAPHY

- Course bibliography:

Τοξικολογία (επίτομο), Α. ΚΟΥΤΣΕΛΙΝΗΣ, Επιστημονικές Εκδόσεις ΠΑΡΙΣΙΑΝΟΥ Α.Ε., (2004)

- Additional bibliography for study:

Θέματα τοξικολογίας, Α. Κουτσελίνης, Αθήνα 1993

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	MIΦB0031	**SEMESTER**	2
TITLE	*Bioanalysis - Biopharmaceutical analysis*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Laboratory Work Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Knowledge Deepening / Consolidation
PREREQUISITES:	MIΦA0017 Philosophy, Ethics and drug Legislation. , MIΦA0018 Basic principles and concepts of Phrarmacology , MIΦA0019 Pharmaceutical research and drug development., MIΦA0020 Biostatistics I, MIΦA0021 Bioinformatics- Biostatistics II, MIΦA0022 Research Methodology and Evidence Based Medicine, MIΦA0023 Clinical Pharmacology I
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218240

(2) LEARNING OUTCOMES

Learning Outcomes
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Work autonomously, Work in teams, Work in an interdisciplinary team, Generate new research ideas	

(3) COURSE CONTENT

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures Laboratory Work Exams Total
STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:*

(5) BIBLIOGRAPHY

- *Course bibliography:*

Θεοδωρίδης, Γ., Γηρούση, Σ., Ζαχαριάδης, Γ., Ζώτου, Α., Σαμανίδου, Β., 2015. Βιοαναλυτική χημεία. [ηλεκτρ. βιβλ.] Αθήνα:Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. Διαθέσιμο στο: http://hdl.handle.net/11419/3667

- *Additional bibliography for study:*

ΑΡΧΕΣ ΕΝΟΡΓΑΝΗΣ ΑΝΑΛΥΣΗΣ (ΜΕΤΑΦΡΑΣΗ 5ΗΣ ΕΚΔΟΣΗΣ)D. A. SKOOG, F. JAMES HOLLER, T. A. NIEMAN, ΕΚΣΟΣΕΙΣ ΚΩΣΤΑΡΑΚΗ, ΑΘΗΝΑΣΥΓΧΡΟΝΕΣ ΜΕΘΟΔΟΙ ΣΤΗΝ ΧΗΜΙΚΗ ΑΝΑΛΥΣΗ, ΜΕΤΑΦΡΑΣΗ PECSOK/SHIELDS/CAIRNS/MCWILLIAM ΕΚΔΟΣΕΙΣ Γ. Α. ΠΝΕΥΜΑΤΙΚΟΣ, ΑΘΗΝΑ

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΒ0032	**SEMESTER**	2
TITLE	*Analytical Toxicology*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Laboratory Work Reading Assigment Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Knowledge Deepening / Consolidation
PREREQUISITES:	ΜΙΦΑ0017 Philosophy, Ethics and drug Legislation. , ΜΙΦΑ0018 Basic principles and concepts of Phrarmacology , ΜΙΦΑ0019 Pharmaceutical research and drug development., ΜΙΦΑ0020 Biostatistics I, ΜΙΦΑ0021 Bioinformatics- Biostatistics II, ΜΙΦΑ0022 Research Methodology and Evidence Based Medicine, ΜΙΦΑ0023 Clinical Pharmacology I
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218241

(2) LEARNING OUTCOMES

Learning Outcomes
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Make decisions, Work autonomously, Work in teams, Work in an interdisciplinary team	

(3) COURSE CONTENT

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures Laboratory Work Reading Assigment Exams Total
STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* *Assessment methods:*

(5) BIBLIOGRAPHY

- Course bibliography:

- Additional bibliography for study:

Επιλεγμένα Σύγχρονα Θέματα Τοξικολογίας, Ε. Τσούκαλη- Παπαδοπούλου, εκδ. Παρισιάνου 2008Fundamentals of analytical Toxicology, R. Flanagan, A. Taylor, I. Watson, R. Whelpton, Wiley 2007

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	MIΦB0033	**SEMESTER**	2
TITLE	*Judicial Toxicology*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Lectures Laboratory Work Reading Assigment Written assigments Exams		
	2	5.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	Specific Foundation / Core
PREREQUISITES:	MIΦA0017 Philosophy, Ethics and drug Legislation. , MIΦA0018 Basic principles and concepts of Phrarmacology , MIΦA0020 Biostatistics I, MIΦA0023 Clinical Pharmacology I, MIΦB0026 Clinical Toxicology, MIΦB0030 General Toxicology, MIΦB0031 Bioanalysis - Biopharmaceutical analysis
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600218242

(2) LEARNING OUTCOMES

Learning Outcomes
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Make decisions, Work in teams, Work in an interdisciplinary team	

(3) COURSE CONTENT

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Course Teaching, Use of ICT in Communication with Students, Use of ICT in Student Assessment *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Lectures 48 Laboratory Work 20 Reading Assigment 5 Written assigments 15 Exams 3 Total 91

STUDENT ASSESSMENT	*Description of the procedure:*
Description of the procedure *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Assessment methods:* Written Exam with Multiple Choice Questions (Formative,Summative)

(5) BIBLIOGRAPHY

- Course bibliography:

- Additional bibliography for study:

1. Τοξικολογία, Α. ΚΟΥΤΣΕΛΙΝΗΣ, ΠΑΡΙΣΙΑΝΟΥ Α.Ε.2. Επιλεγμένα Σύγχρονα Θέματα Τοξικολογίας, ΕΛΕΝΗ ΤΣΟΥΚΑΛΗ-ΠΑΠΑΔΟΠΟΥΛΟΥ, ΠΑΡΙΣΙΑΝΟΥ Α.Ε., 20083.Casarett & Doull Βασική Τοξικολογία (2η έκδοση), CURTIS D. KLAASSEN, JOHN B. WATKINS, ΠΑΡΙΣΙΑΝΟΥ Α.Ε., Επιμέλεια: Α. Γούλας, Ν. Ράικος, Χ. Σπηλιοπούλου, Σ. Τοπούζης, 2015

3.2.3 Semester C

Course Description Form

(1) GENERAL

FACULTY	Health Sciences		
SCHOOL	Medicine		
CYCLE / LEVEL	Postgraduate		
CODE	ΜΙΦΓ0034	**SEMESTER**	3
TITLE	*Postgraduate Thesis*		

Autonomous Didactic Activities	**HOURS OF INSTRUCTION**	**ECTS**
Reading Assigment Project Written assigments Exams		
		30.0000

TYPE OF THE COURSE *backround, general knowledge, scientific area, skills development*	
PREREQUISITES:	
LANGUAGE OFINSTRUCTION AND EXAMINATION:	Greek (Instruction,Examination)
THE COURSE IS OFFERED TO EXCHANGED ERASMUS STUDENTS:	
URL:	https://qa.auth.gr/class/1/600229343

(2) LEARNING OUTCOMES

Learning Outcomes
Students are expected to:• prepare drafts of the chapters of their thesis• develop their research plan in depth• complete the research and study of sources and literature• Public presentation of the research design and hypothesis
General Competences *Taking into account the generic competences that must be acquired by the graduates of AUTh (as they are described in the Diploma Supplement and presented as followed) which ones are intended by the course?*

Retrieve, analyse and synthesise data and information, with the use of necessary technologies *Adapt to new situations* *Make decisions* *Work autonomously* *Work in teams* *Work in an international context* *Work in an interdisciplinary team* *Generate new research ideas*	*Design and manage projects* *Appreciate diversity and multiculturality* *Respect natural environment* *Demonstrate social, professional and ethical commitment and sensitivity to gender issues* *Be critical and self-critical* *Advance free, creative and causative thinking* *……* *Other…* *…….*
Apply knowledge in practice, Retrieve, analyse and synthesise data and information, with the use of necessary technologies, Make decisions, Work autonomously, Generate new research ideas, Design and manage projects, Appreciate diversity and multiculturality, Be critical and self-critical, Advance free, creative and causative thinking	

(3) COURSE CONTENT

This is the first phase of the preparation of the thesis under supervision. The purpose of the course is the organized and correct preparation regarding the research, study and classification of the collected material and preparation of the working case and the arguments that should be supported.

(4) DIDACTIC AND LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY *Face to face, Distance Learning*	Face to face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Course Teaching, Laboratory Teaching, Communication with Students*	Use of ICT in Communication with Students *Description:*
COURSE ORGANIZATION *Lectures, Seminars, Laboratory Work, Fieldwork, Reading Assigment, Tutorial, Internship, Clinical Practice, Artistic Workshop, nteractive Teaching in Information Center, Field trips and participation in conferences/seminars / activities, Project, Written assignments, Artistic creation, Other.*	***Activities*** ***Workload*** Reading Assigment 400 Project 300 Written assigments 150 Exams 50 Total 900

STUDENT ASSESSMENT *Description of the procedure* *A, Assessment methods, Formative or Summative, Written Exam with Multiple Choice Questions, Written Exam with Short Answer Questions, Written Exam with Extended Answer Questions, Written Exam with Problem Solving, Written Assignment, Report, Oral Exams, Performance / Staging Labortatory Assignment, Clinical Examination of Patient, Artistic Performance, Other / Others*	*Description of the procedure:* The evaluation consists of:(a) in the formation of a feasible research plan for the preparation of a diploma thesis(b) in the comprehensive and correct study of the selected sources(c) in the preparation of an outline of the contents of the diploma thesis(d) in presenting to an audience the working case and literature and research data. *Assessment methods:* Written Assignment (Formative,Summative), Oral Exams (Formative,Summative), Performance / Staging (Summative)

(5) BIBLIOGRAPHY

- Course bibliography: *- Additional bibliography for study:*

4. GENERAL INFORMATION FOR STUDENTS

4.1 Student Information System (sis.auth.gr)

Students can:

- ➢ submit a statement of courses every semester
- ➢ see their semester courses and their grades
- ➢ monitor the requirements for receiving a degree and their coverage
- ➢ submit applications for the issuance of certificates

4.2 AUTh elearning services

The elearning.auth.gr platform hosts the digital undergraduate and postgraduate courses of all departments of the Aristotle University, as well as courses of other structures of the Aristotle University (Lifelong Learning, School of Modern Greek Language, etc.). Access is possible only for AUTh members and for external users who are certified as external partners of the hosted courses. The platform is supported by the Information Technology Center and the Library & Information Center of the Aristotle University of Thessaloniki.

The Postgraduate Program of the School of Medicine entitled: «Clinical and Industrial Pharmacology - Clinical Toxicology» has elearning.auth.gr platform for all courses.

4.3 Academic Identity Card

The Academic Identity Card Online Service launched in the academic year of 2011-2012 and supports multiple benefits, provided to every member of the Greek Higher Education Institutions.
For the development of the service, the computational infrastructures of GRNET were deployed. GRNET, in cooperation with the Ministry of Education and Religious Affairs, developed the central information system, for the implementation of a single Academic Identity Card, in a plastic or smart card format.
The service highly contributes to updating the way Academic Services and Student Support Services are provided, by reducing public resources from the elimination of improper services, such as the need for an annual reissuing of the Student Academic Identity and other cards.
Postgraduate students shall not log into the system by using their academic credentials, instead they shall have to fill out themselves the personal data they shall be requested to. Each student's statement shall be considered as a Responsible Declaration in the sense and to the effects of Law 1599/1986, so therefore students should be very careful when entering information which must be true and up to date.
It is noted that in the event of loss of the academic identity card, a student may apply for a replacement card, subject to pertinent approval by the Secretariat of the relevant Department. Upon such approval, the procedure as described hereinabove shall be repeated.

4.4 Academic Calendar

The academic year begins on the 1st of September and ends on the 31st of August of the following year. Teaching and training of each academic year is divided in two semesters (Winter and Spring) with a duration of 13 weeks each. At the end of each semester an exam period takes place along with a September exam period.
The time-frame of the study program is decided each year by the School's General Assembly on April or May of the previous academic year.
No educational activities take place in the following dates:
October 26 to 28 (Saint Dimitrios Day - Feast of the city's Patron Saint and National Celebration)
November 17 (Students' uprising in the National Technical University of Athens against the junta in 1973)
December 24 to January 7 (Christmas Holidays)
January 30 (The Three Patron Saints of Education Day)
March 25 (National Anniversary of the revolution of 1821 against the Turkish rule)
From Thursday before Lent to the day after Lent Monday (Carnival Holidays)
From the Monday of Easter Week to the Sunday after Easter Sunday (Easter Holidays)
May 1 (Labour Day)
On the day of students' elections
Holy Spirit Day (Monday after Pentecost)

4.5 TUITION FEES

For studying at Postgraduate Program of the School of Medicine «Clinical and Industrial Pharmacology - Clinical Toxicology» tuition fees are 4,500 euros (1,500 euros per semester).

4.6 WEBSITES INFORMATIONS:

WEBSITE OF THE POSTRGRADUATE PROGRAM CLINICAL AND INDUSTRIAL PHARMACOLOGY – CLINICAL TOXICOLGY: http://cip.web.auth.gr
ARISTOTLE UNIVERCITY OF THESSALONIKI: http://www.auth.gr
SCHOOL OF MEDICINE: http://www.med.auth.gr
GREEK MINISTRY OF EDUCATION, RESEARCH AND RELIGIOUS AFFAIRS: http://www.minedu.gov.gr
EUROPEAN UNION EDUCATIONAL ISSUES: http://www.europa.eu.int