



Diabetes mellitus care
Φροντίδα στο Σακχαρώδη Διαβήτη
Πρόγραμμα Μεταπτυχιακών Σπουδών



INTERNATIONAL
HELLENIC
UNIVERSITY

INTERNATIONAL UNIVERSITY OF GREECE

Study Guide Postgraduate Study Program «Diabetes Mellitus Care»

November 2022



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INTERNATIONAL
HELLENIC
UNIVERSITY

POSTGRADUATE STUDY PROGRAM

DIABETES MELLITUS CARE

DEPARTMENT OF NURSING

INTERNATIONAL HELLENIC UNIVERSITY (IHU)

STUDY GUIDE

THESSALONIKI

Dear postgraduate student,

Congratulations on your success and welcome to the educational community of the International Hellenic University (IHU) and to the Postgraduate Program “Diabetes Mellitus Care”, of the Department of Nursing. You are holding in your hands the Study Guide of the Postgraduate Program of the Department of Nursing, School of Health Professions of IHU.

In the pages of this Guide you can find information regarding the philosophy and objectives of the Postgraduate Program, its administrative function, the content of the studies, the staff, the research and postgraduate activities, news about the professional rehabilitation of our graduates, as well as information regarding the available services of IHU.

With the assurance that the entire staff of the Department will make every effort to assist you during your studies, I wish you a good start and good success in your studies.

The Director of Postgraduate program

THE POSTGRADUATE PROGRAM “DIABETES MELLITUS CARE”

The Department of Nursing of the International Hellenic University (IHU) is one of the first Departments to organize and operate a Master of Science Program (MSc) in the field of Diabetes Mellitus, Government Gazette 33305/issue B’/7-08-2020 and Government Gazette 5435/issue B’/22-11-2021.

The Master of Science Program (MSc) entitled: “Diabetes Mellitus Care,” is currently offered by the Department of Nursing of the International Hellenic University (IHU) and awards a Postgraduate Diploma in “Diabetes Mellitus Care” in one of two specializations: “Clinical Diabetology” or “Therapeutic Education in Diabetes Mellitus.” The MSc aims to provide postgraduate-level education in Diabetes Mellitus, so that graduates of the MSc will acquire a strong scientific background, experience and expertise in Diabetes Mellitus. More specifically, the MSc aims to: a) provide high-level training for scientists, so that they can successfully staff key areas related to the management of diabetes mellitus and contribute substantially to a particularly important and constantly evolving health sector. b) develop and promote research in all areas related to the subject of diabetes mellitus.

MISSION OF THE MSc

The Master of Science Program (MSc) entitled: "Diabetes Mellitus Care" from its inception to date has provided society with more than 250 health professionals with specialized knowledge and skills in the management of people with diabetes. Currently, 40 students are studying.

The purpose of the MSc is to provide graduate students with excellent education and specialization that will lead them to their scientific and professional career and development. Upon graduation, students will be ready to work effectively both in the Community and in the Hospital, offering specialized services in Primary, Secondary and Tertiary Health Care Institutions and Organizations.

Within the framework of its mission the Master of Science Program:

It collaborates with other departments of health sciences schools in the country, with nursing institutions and other health institutions at home and abroad.

- o It conducts research programs.

- o It provides postgraduate students with modern knowledge so that they can be competitive health professionals at a national and international level.
- o It organizes seminars and training days for graduates in the context of promoting continuing education.
- o It participates in social events (ex. World Diabetes Day, November 14).
- o The nursing department provides graduates of the postgraduate program with the opportunity to write a doctoral thesis in relevant subjects. Doctoral studies aim at creating high-quality modern scientific research, as well as at training scientists capable of contributing to the progress and development of science and research.

LEVEL OF DEGREE

- Level according to the Greek system of studies: Postgraduate
- Level according to the Bologna Process study structure: 2nd cycle of studies
- Level according to the National Qualifications Framework: 7
- Level according to the UNESCO International Standard Classification of Education

ISCED 2013: 7.

The qualification "Postgraduate Diploma", as a 2nd cycle qualification, provides access to 3rd cycle doctoral studies.

THE GRADUATE OF THE MASTER'S DEGREE

Upon completion of their studies, graduates of the Master of Science possess a high level of theoretical knowledge and skills and are able to work in all European Union countries and international organizations (the distribution of ECTS credits, across all semesters of study, serves the evaluation of postgraduate students at an international level)

EXPECTED LEARNING OUTCOMES OF THE MASTER OF SCIENCE PROGRAM

Graduates of the Master of Science Program "Diabetes Care" will be able to function effectively in the following areas:

- Providing personalized health care to people with diabetes, which is documented with scientific data.
- Developing research programs that respond to the subject of diabetology.

- Integrating ethical and legal commitments and professional values in the health care of people with diabetes.

ADMINISTRATIVE STRUCTURE OF THE MSc

Management Bodies of the Postgraduate Studies Program

The Master of Science Program “Diabetes Care” of the Department of Nursing operates independently and is managed by the following bodies:

- The Governing Committee or the Senate of the IHU
- The General Assembly (GA) of the Department of Nursing
- The Coordinating Committee (CC) of the Postgraduate Studies Program
- The Postgraduate Studies Committee of the IHU
- The Director of the Postgraduate Studies Program

1) The Senate is the competent body for matters of an academic, administrative, organizational and financial nature and exercises all responsibilities not specifically assigned by law to other bodies.

2) General Assembly (GA) of the Department of Nursing, which has the following responsibilities:

- prepares and recommends proposals for the Master of Science Program
- appoints the members of Advisory Committees
- appoints the members of Examination Committees
- appoints the Coordinating Committee (CC)
- awards postgraduate diplomas
- establishes the Selection or Examination Committee for postgraduate student candidates
- appoints the Director and the Deputy Director of the Master of Science Program
- determines the application of the selection criteria
- approves and validates the list of successful candidates
- assigns auxiliary work to the Department's Application Professors
- assigns the teaching of courses following a recommendation from the Director of Master of Science Program and the SC
- appoints a supervising Professor to each postgraduate student

- approves the budget and the report of the postgraduate program
- decides on the time of publication of the announcement in the press, at least two (2) months before the start of the courses
- approves the submission of additional supporting documents in the announcement
- determines the allocation of points for the qualifications of the candidates
- approves requests for suspension of studies
- approves the dismissals of students
- defines the categories of the operating expenses of the Institution that will be covered by 25% of the income that will be allocated
- defines the remuneration of the scientific staff.

3) Coordinating Committee (CC) with a two-year term, which is five-member and is elected by the General Assembly of the department. The Director of the Postgraduate Studies Chairs its work. The Coordinating Committee has the following responsibilities:

- monitors and coordinates the operation of the Postgraduate Studies
- recommends to the General Assembly of the Department the appointment of Advisors and Supervising Professors for each postgraduate student
- Validates the topics of postgraduate theses
- Recommends to the General Assembly the dismissal of students
- Determines the criteria for selecting and awarding points for postgraduate student candidates
- Carries out any other responsibility assigned to it by the General Assembly of the Department

4) The Postgraduate Studies Committee of the International Hellenic University (IHU) has eleven members with a two-year term. The Postgraduate Studies Committee of the IHU exercises the responsibilities provided for in article 79 of law 4957/2022.

5) Director of the Postgraduate Studies Program, with a two-year term. He is appointed together with his Deputy, by decision of the Department Assembly for a two-year term. He chairs the SC, is a member of the first-level or deputy-level faculty, is of the same or, if not possible, a related subject to the subject of the M.Sc., which is diabetes mellitus, and has the following responsibilities:

- monitors and coordinates the operation of the M.Sc.
- prepares the agenda of the Executive Committee
- convenes and chairs the Executive Committee of the Program,
- prepares the budget and report of the MSc, which he submits to the General Assembly on an annual basis.
- makes recommendations both to the Executive Committee and directly to the General Assembly of the Department on any issue concerning the effective operation and qualitative improvement of the M.Sc. The Director is not entitled to additional remuneration for his administrative work as Director.

The Vice President of Academic Affairs of the IHU has the supervision and general coordination of the postgraduate studies of the Institution.

The administrative support of the M.Sc. is undertaken by the Secretariat of the M.Sc., which will collaborate with the Secretariat of the Department of Nursing. The Secretariat of the M.Sc. handles current issues concerning the teaching staff, students, the curriculum, communication with various services within the Institution, such as the Research Committee, but also collaborating Institutions and takes care of public relations and events organized under the auspices of the program. The progress of the students and their administrative affairs are monitored by the Secretariat of the M.Sc., through the unitron information system. The Secretariat of the Postgraduate Program operates the system through which all necessary functions for students' studies are performed, such as the issuance of necessary documents, the issuance of detailed grades, copies of degrees, etc.

TEACHING STAFF OF THE MASTER'S PROGRAM

The teaching staff of the Postgraduate Program are the faculty members serving in the Department. Specifically, there are 5 Professors, 3 Associate Professors, 2 Assistant Professors, and 3 Lecturers of Applications (of which 2 do not hold a doctoral degree). In detail, the Teaching Staff of the Department of Nursing consists of the following members:

	Phone number	E-mail
Professors		

Dr. Kourkouta Lambrini	+302310 013826	lkourkouta@nurse.teithe.gr
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Dr. Kazakos Kyriakos	+302310 013100	kkazakos@nurse.teithe.gr
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Associate Professors		
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Assistant Professors		
Dr. Kafkia Theodora	+302310013513	dkafkia@hotmail.com
Dr. Moschos Ioannis	+302310013100	gutgutgut2011@gmail.com
Koukourikos Konstantinos	+302310 013831	kokaea@yahoo.gr
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To meet the educational needs of the Master of Science Program "Diabetes Mellitus Care", additional teaching staff include collaborators from other Universities and scientists of recognized prestige as external collaborators with specialized knowledge in the subject of the Master of Science Program, which is diabetes mellitus. For this purpose, an open call for expressions of interest without an expiration date is posted on the Master of Science Program website. Before the start of each academic year, the competent administrative body of the Master of Science Program assigns candidates who meet the requirements of the law to teach those courses not covered by faculty members of the Department, after evaluating the applications that have been submitted. The submission of an expression of interest application does not oblige the Department to proceed with the conclusion of a contract.

DEPARTMENT WEBSITE

The Master of Science Program "Diabetes Mellitus Care" in the context of better informing and informing our society and the entire academic community about the nature of the Master of Science Program, in terms of its capabilities and activities, has had its own website since the beginning of its operation.

The modern era of speed and immediate and complete information was one of the main reasons that led to the creation of this website. On its pages, the visitor can obtain information regarding the content of the studies (information about the department, the curriculum by semester, the types of courses), the department's staff, the research activities, as well as a wealth of other useful and utilitarian information (secretariat operations, department announcements) related to the studies and operation of the Postgraduate Program.

The website of the Master of Science Program "Diabetes Mellitus Care" is www.diabetes.ihu.gr

There is also a link to:

- The website of the Department of Nursing
- The Library of the IHU. The main mission of the Library is to develop and maintain collections of books, scientific journals and audiovisual material of all kinds to meet the educational and research needs of the Academic Community (Undergraduate and Graduate Students, Staff).
- The Uniportal electronic system where students can submit course registration at the beginning of each semester and can also monitor the results (Grades) of the exams.
- With scientific bodies related to the subject of the MSc, which is diabetes mellitus, such as the Hellenic Diabetes Society, the Hellenic Academy of Diabetes, the Diabetes Society of Northern Greece, the American Diabetes Association, the European Society for the Study of Diabetes and the International Diabetes Federation.
- VPN (Secure remote access to libraries and databases).

The department's website is the main communication mechanism of the postgraduate program with postgraduate students and the academic community in general, as well as

with society as a whole. Also, future postgraduate students, as well as employers, are informed about the educational and research work of the postgraduate program.

Specifically:

The courses of each semester are published in full and in detail on its pages, and postgraduate students can access the presentations of all courses of the curriculum and the course syllabus.

A significant amount of work related to individual courses is carried out through the website. Informing postgraduate students about issues related to the courses and the program, or hours of cooperation with teaching professors.

Bilingual version of specific pages of the department's website with completeness, clarity and objectivity of information.

Creation by postgraduate students of communication groups on social media (Facebook) that helps in the immediate dissemination of information.

CLINICAL PRACTICE

Postgraduate students have the opportunity in the third semester of their studies, as an alternative to the Postgraduate Thesis, to do clinical practice by attending a regular diabetes outpatient clinic in a Hospital. The purpose of the Clinical Practice is for postgraduate students to come into contact with patients and to apply the theoretical knowledge they acquired during the two previous semesters of their studies in practice. Postgraduate students who, as an alternative to the Postgraduate Thesis, wish to do Clinical Practice will submit a corresponding application to the secretariat of the Postgraduate Studies Program before the start of the third semester. The Clinical Practice takes place in regular diabetes outpatient clinics and in wards of people with diabetes mellitus in nursing institutions. Within the framework of the Clinical Practice, postgraduate students will be trained by the supervising professor in taking a history, in the clinical examination of patients with diabetes mellitus, in the diagnostic and therapeutic approach, in all modern oral and injectable antidiabetic therapies, in modern insulin therapy regimens as well as in the technique of modern insulin pumps. The duration of the Clinical Practice is 13 weeks and will correspond to 30 ECTs, the same as the postgraduate diploma thesis. The postgraduate students will

have either one eight-hour presence per week, or two four-hour ones. Alternatively, they will be able to have one four-hour presence per week, in which case the duration of the Clinical Practice will be 26 weeks. In order for the Clinical Practice to be considered complete, there should not be more than two absences in total. A Clinical Practice Book will be kept, where all the educational activities of each postgraduate student will be recorded per week. The General Assembly of the department will assign each postgraduate student a supervising professor, who will be responsible for the successful completion of the educational process. The supervising professor is a health professional, physician, pathologist or nurse with a certified specialization in diabetes mellitus or a Postgraduate Diploma in Specialization in Diabetes or a related Doctoral thesis and proven clinical experience of at least two years in patients with diabetes mellitus. After its completion, the evaluation of the Clinical Practice of the postgraduate students will be carried out at the Hospital by a three-member committee, in which the supervising professor and two other members, who will be professors with the corresponding qualifications, will participate, with an oral examination on patients with diabetes mellitus.

ERASMUS PROGRAMM

Within the framework of the Erasmus program, postgraduate students have the opportunity to carry out part of their studies (clinical internship or theoretical courses) in European Union countries.

The Department has concluded bilateral cooperation agreements with Higher Education Institutions abroad in the context of student and faculty mobility, through the ERASMUS program. The terms and conditions of student mobility (European and international) within the framework of the Erasmus+ program are detailed on the website of the Public and International Relations Office. After completion of the mobility program, the Coordinating Committee of the Master's Program recognizes the courses attended by the postgraduate student abroad based on the relevant academic practices for the recognition of credit transfer (ECTs) between different departments and Institutions in Europe, in a manner analogous to the principles of the Lisbon Convention on the Recognition of Academic Qualifications.

STUDENT ISSUES

Postgraduate students are entitled to student care similar to undergraduate students, as defined by the applicable legislation. The IHU aims to improve the living conditions of its students and takes care of all issues that concern students, such as general announcements, medical care, student support in their studies, teaching support office, sports activities, cultural activities, disabled people, student study counseling, student advocate office, student support service and Liaison Office.

In addition, the regulation for the study counselor of the International Hellenic University applies as posted on the website <https://www.ihu.gr/modip>.

The director of the MSc holds the role of academic advisor whose purpose is to guide and support postgraduate students in following the study program.

ASSESSMENT OF POSTGRADUATE STUDENTS

Written final exams are the main method of assessment in theoretical courses. They take the form of theoretical development or multiple choice questions.

In special cases (e.g. students with special learning difficulties) there is the possibility of an oral examination by the teaching professor in the presence of another faculty member.

GRADING SYSTEM

Performance in courses is assessed with grades given during the knowledge control process. Each course or educational activity is graded independently in whole or half units. The grading scale for the student's overall performance is defined from zero to ten. Passing grades are five (5) and higher. In percentage scale percentages, and given that the maximum performance is equivalent to 100%, the minimum successful performance is considered to be 50%.

The grade for the Postgraduate Diploma is given in the form of a decimal number with an accuracy of one tenth and ranges from 5.0 to 10.0. The Postgraduate Diploma includes the distinctions "Excellent", "Very Good" and "Good" depending on the score as follows:

“Excellent”: From a grade of 8.50 to 10.00 or from 85% to 100%

“Very Good”: From a grade of 6.50 to 8.49 or from 65% to 84.99%

“Good”: From a grade of 5.00 to 6.49 or from 50% to 64.99%

The above distinctions “Excellent”, “Very Good” and “Good” characterize only the grade of the Postgraduate Diploma and not the individual performance of the students in the courses and other educational activities of the curriculum.

REQUIREMENTS FOR THE AWARD OF A POSTGRADUATE DIPLOMA

To obtain a Postgraduate Diploma, each student is required to have successfully completed a total of 12 courses, as well as their thesis or clinical internship.

OBJECTIVES OF THE CURRICULUM

The objective of the MSc is to provide postgraduate education in Diabetes Mellitus, so that the graduates of the MSc will acquire a strong scientific background, experience and expertise in Diabetes Mellitus. More specifically, the MSc aims to: a) provide high-level training for scientists, so that they can successfully staff key areas related to the management of diabetes mellitus and contribute substantially to a particularly important and constantly evolving health sector. b) develop and promote research in all areas related to the subject of diabetes mellitus. In the National Health System today, a significant number of Diabetes Centers and Clinics operate to treat Diabetes Mellitus, most of which are not adequately staffed and present significant shortages of specialized scientific personnel (doctors, nurses, dietitians, psychologists). But also in the private health sector, the rapid increase in the incidence of diabetes mellitus imposes and cultivates the conditions for the creation of executives specialized in diabetes mellitus. Graduates of the Master of Science Program will acquire the required skills for a successful career as executives in both the private, public and academic sectors.

STRUCTURE OF THE CURRICULUM OF THE MASTER OF SCIENCE PROGRAM

The postgraduate curriculum is based on the current legislation and is structured on the basis of the workload (L.3374/2005, article 14), in accordance with the provisions of the Φ.5/89656/B3/13.8.2007 decision of the Minister of National Education and Religious Affairs (ΦΕΚ Β' 1466/13-8-2007). Credit Units (ECTs) are allocated to each course. Each Credit Unit corresponds to 30 hours of workload. The workload of each semester is calculated at 900 hours which are equivalent to 30 Credit Units.

The postgraduate courses are provided in the form of full-time and compulsory attendance. During his studies, the postgraduate student is obliged, before the start of each academic semester, to submit to the Secretariat a course declaration, which will include the courses he will attend in the current semester, the preparation of the diploma thesis and any other educational activity in which he will participate in the corresponding semester. The postgraduate student of the "Diabetes Care" program has the option to choose between the two (2) proposed specializations:

- Clinical Diabetology
- Therapeutic Education in Diabetes Mellitus

The courses of the first two semesters are a combination of core and specialization courses. In the first two semesters, the student is required to successfully complete 12 courses (6 courses in the 1st semester and 6 courses in the 2nd semester), each of which corresponds to five (5) credit units (ECTs). The courses may include theoretical and laboratory teaching as a single educational unit. Each teaching semester includes thirteen (13) full teaching weeks. The thesis is equivalent to thirty (30) credit units and is prepared during the third semester. As an alternative to the thesis in the third semester, postgraduate students can do a clinical internship. The duration of the Clinical Internship is 13 weeks and corresponds to thirty (30) credit units, just like the postgraduate thesis. The M.Sc. awarded after completing ninety (90) credit units

Program characteristics

- Duration of the program in years: 18 months
- Type of study: Full-time
- Credit Units/ECTS: 90
- Total workload: 2700 hours

MASTER OF SCIENCE PROGRAM “Diabetes Mellitus Care”

Detailed Course Schedule

SPECIALIZATION “Clinical Diabetology”

1 st SEMESTER			
	CODE	COURSE TITLE	ECTS
1	MK1	Epidemiology- Pathogenesis of Diabetes Mellitus	5
2	MK2	Self-Monitoring in Diabetes Mellitus	5
3	MK3	Microvascular and Macrovascular Complications of Diabetes Mellitus	5
4	ME1	Research Methodology in Health Sciences	5
5	ME2	Nutritional care in Diabetes Mellitus	5
6	ME3	Psychological approach to chronic diseases	5
2 nd SEMESTER			
	CODE	COURSE TITLE	ECTS
1	MK4	Biostatistics-Health Informatics	5
2	MK5	Exercise in Diabetes Mellitus	5
3	MK6	Diabetic Foot	5
4	ME4	Diabetes in special patient groups	5
5	ME7	Drug treatment for Diabetes Mellitus	5
6	MK8	Insulin therapy-insulin pumps	5

SPECIALIZATION “Therapeutic Treatment in Diabetes Mellitus”

1 st SEMESTER			
	CODE	COURSE TITLE	ECTS
1	MK1	Epidemiology- Pathogenesis of Diabetes Mellitus	5
2	MK2	Self-Monitoring in Diabetes Mellitus	5
3	MK3	Microvascular and Macrovascular Complications of Diabetes Mellitus	5
4	ME1	Research Methodology in Health Sciences	5
5	ME5	Nutritional Care and Exercise in Diabetes Mellitus	5
6	ME3	Psychological Approach to Chronic Diseases	5
2 nd SEMESTER			
	CODE	COURSE TITLE	ECTS
1	MK4	Biostatistics-Health Informatics	5
2	ME6	Childhood & Adolescence - School & Diabetes Mellitus	5
3	ME7	Health Education for the Prevention of Diabetes Mellitus	5
4	ME4	Diabetes in Special Patient Groups	5
5	ME8	Diabetes Care Plans	5
6	MK9	Education of Patients in Diabetes Mellitus and Insulin Therapy	5

Course Title: Epidemiology-Pathogenesis of Diabetes Mellitus.

Course Code: MK1

Course Type: Core Course

Semester: 1st

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: Understanding the magnitude of diabetes and prediabetes, at a national and global level and analyzing the pathophysiological disorders that lead to the appearance of the syndrome.

In detail, postgraduate students should be able to:

1. Know modern epidemiological data from authoritative sources (World Health Organization, European Society for the Study of Diabetes and World Society for the Study of Diabetes) for both diabetes and prediabetes as well as the ever-increasing incidence of diabetes.
2. Know the pathophysiological disorders that lead to the appearance of diabetes.

COURSE DESCRIPTION

- Introduction to Epidemiology. Aims and Methods.
- Collection of epidemiological data – disease declaration, hospital records, diagnosis of causes of death, censuses.
- Epidemiology of diabetes.
- Classification of diabetes.
- Diagnostic criteria of diabetes / Goals of treatment of hyperglycemia.
- Pathophysiology of type 1 diabetes.
- Pathophysiology of type 2 diabetes (insulin resistance, β -cell deficiency, incretin phenomenon disorder).

REFERENCES

- Diabetes Mellitus, modern views, ,K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Pathology Netter, 2006

Course Title: Self-Monitoring in Diabetes Mellitus

Course Code: MK2

Course Type: Core Course

Semester: 1st

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: Understanding the necessity of self-management and frequent capillary blood sugar measurements by people with Diabetes Mellitus themselves (self-monitoring - self-measurement).

In detail, postgraduate students should be able to:

1. Know the correct self-measurement technique and be able to successfully educate people with Diabetes Mellitus.
2. Know the normal values of fasting glucose, postprandial glucose and glycosylated hemoglobin (HbA1c), and correctly evaluate high and low glucose values.
3. Know the necessary therapeutic adjustments (in insulin dose or oral medication or diet) that they should recommend, so that pathological glucose values are corrected.

COURSE DESCRIPTION

- Diagnostic criteria for Diabetes Mellitus – therapeutic glucose targets.
- Postprandial hyperglycemia.
- Hypoglycemia.
- Glycosylated hemoglobin (HbA1c).
- Glucose fluctuation.
- Glucose meters – Correct pricking and measuring technique.
- Self-management – self-testing training.
- Frequency and timing of glucose measurements – Utilization of self-testing, guidelines.
- Urine glucose self-testing.
- Continuous glucose recording.
- Principles of education in diabetes.

REFERENCES

- Diabetes Mellitus, modern views, K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Pathology Netter, 2006
- Joslin's Diabetes Mellitus, 2015

Course Title: Microvascular and Macrovascular Complications of Diabetes Mellitus

Course Code: MK3

Course Type: Core Course

Semester: 1st

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: Understanding the close relationship between hyperglycemia and the level of diabetes control with the serious Macro- and Microvascular complications of diabetes.

In detail, postgraduate students should be able to:

1. Have in-depth knowledge of macrovascular complications (coronary artery disease and myocardial infarction, stroke, peripheral angiopathy) and microvascular complications (retinopathy, nephropathy and neuropathy).
2. Be aware of other risk factors for vascular complications in diabetes, such as hypertension, hyperlipidemia and smoking.

COURSE DESCRIPTION

- Atherosclerosis.
- Coronary artery disease – Myocardial infarction.
- Hyperlipidemia in diabetes.
- Hypertension in diabetes.

- Vascular stroke.
- Peripheral vasculopathy.
- Diabetic retinopathy.
- Peripheral diabetic neuropathy.
- Neuropathy of the autonomic nervous system.
- Diabetic kidney disease.
- Monitoring protocol for diabetic patients.

REFERENCES

- Diabetes Mellitus, modern views, K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Pathology Netter, 2006

Course Title: Research Methodology in Health Sciences

Course Code: ME1

Course Type: Core Course

Semester: 1st

ECTS Credits: 5

COURSE AIMS AND OBJECTIVES: The scientific approach through research is the most complete method of acquiring systematic and valid knowledge. Research is an integral part of the Health Sciences. The aim of the course is to enable postgraduate students to evaluate and judge the value and credibility of research studies and to be able to carry out research projects in the field of Health Sciences themselves.

In detail, postgraduate students should be able to:

1. Recognize the purpose and value of research in the Health Sciences
2. Distinguish the research fields that require research, so that future research directions are useful and focus mainly on solving problems in the field of Health.
3. Plan, carry out and write research projects in the field of Health.
4. To use appropriate scientific techniques in all phases of the research work (design, sampling, collection, analysis and processing of data, drawing conclusions.)
5. To judge the scientific value and clinical utility of research work of other researchers, so as to apply only the documented findings and where required.

COURSE DESCRIPTION

- Introduction to Health Sciences Research
- Purposes and Limitations of Scientific Research
- Historical review and future directions
- Ethics of research in the field of health
- Literature review
- Design of a research protocol
- Sampling methods

- Data collection methods
- Measurement of variables - measurement scale
- Descriptive and inferential statistical data analysis
- Questionnaire design
- Research critique
- Writing a research paper

REFERENCES

- Introducing research in nursing, Wilson 1987
- Research Methodology (applications in the field of health), 2004
- Research methodology in the field of Health,,C.Darviri, 2009

Course Title: Biostatistics – Health Informatics

Course Code: MK4

Course Type: Core Course

Semester: 2nd

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: Modern biostatistics is now considered to be necessarily interconnected with Health Informatics. There is no need for complex mathematical equations, proofs and entire pages of illegible tables of limit values of various statistical distributions. By applying statistical analysis programs such as SPSS or Minitab, biostatistics is applied more easily and comprehensively in the field of health research. The aim of the course is to understand the basic principles and methods of statistics and the applied knowledge with the help of informatics.

Postgraduate students will be able to know:

1. Basic concepts of descriptive and inferential statistics
2. The design of a research study during data collection
3. Data analysis and statistical analysis with the help of informatics
4. The way of presenting the results of the research through diagrams and tables

COURSE DESCRIPTION

- Introduction to Biostatistics / Variables and data
- Data description in:
 - o Frequency table
 - o Diagrams
 - o Frequency distribution diagram
- Study design and data collection
- Probability, risk and odds
- Hypothesis testing for equality of population proportions: the x2 statistical test

- Correlation of variables
- Survival analysis
- Systematic review and meta-analysis
- Hospital information systems
- Diabetes information system
- Electronic health record.
- Telemedicine-Telecare services

REFERENCES

- Biostatistics and Epidemiology, Arwen Khachatryan et al, 1988
- Fundamental Concepts in Biostatistics, David Bowers, 2011
- Health Informatics, John Mantas, Arie Hasman, 2007

Course Title: Psychological Approach to Chronic Diseases

Course Code: ME3

Course Type: Core Course

Semester: 1st

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: To understand that there is a dynamic interaction between chronic disease and the mental balance and behavior of the person and to support the Biopsychosocial model of health, where the physical, emotional and mental state of the individual operate as a whole and in balance with the physical and social environment.

In detail, postgraduate students should be able to:

1. Understand the importance of a secure relationship and meaningful collaboration with the patient.
2. Be ready to accept the uniqueness of the personality of patients with chronic diseases, the different way in which each patient interprets their illness.
3. By understanding psychological techniques, contribute so that the patient can review and perhaps redefine values and priorities and set new goals that will help him experience the health problem in the best possible way, without becoming disorganized.

COURSE DESCRIPTION

- Personality Formation-Factors that influence it
- Psychology in the field of Health
- Communication between Health professionals and patients
- Management of patients with newly diagnosed Diabetes Mellitus
- Psychological interventions in patients with Diabetes Mellitus, myocardial infarction, vision problems, patients on artificial kidneys and in patients with amputations.
- Hospitalization in the intensive care unit

- Counseling patients with chronic diseases

REFERENCES

- Engll, GL The need for a new medical model: The Challenge For biomedicine Science.
- Frank A.W At the will of the body: Reflections on illness 1991
- Danae Papadatou, Thalia Bellali: Basic knowledge of psychology for health professionals 2008.

Course Title: Nutritional Care in Diabetes

Course Code: ME2

Course Type: Specialization Course – “Clinical Diabetology”

Semester: 1st

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: Diet is the cornerstone in both the prevention and treatment of diabetes. The aim of the course is to understand the importance of diet in diabetes.

In detail, postgraduate students should be able to:

1. Know documented views on the role of nutrition in the treatment and prevention of diabetes (evidencedbasedmedicine).
2. Know the goals of caloric intake and nutrient percentages and how to formulate an individualized diet for people with diabetes type 1 or type 2.

COURSE DESCRIPTION

- Nutrients – Alcohol – Fiber.
- Obesity (assessment and treatment methods) and diabetes.
- Dietary goals in type 1 and type 2 diabetes.
- Antioxidants, vitamins, minerals, trace elements.
- Sweeteners
- Dietary supplements and “functional” foods.
- Glycemic index
- Dietitian recommendation in diabetes. Examples

REFERENCES

- Diabetes Mellitus, modern views, K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Pathology Netter, 2006

Course Title: Exercise in Diabetes Mellitus

Course Code: MK5

Course Type: Specialization Course-“Clinical Diabetology”

Semester: 2nd

Teaching Units / ECTS: 5

COURSE PURPOSE AND OBJECTIVES: Understanding the importance of physical exercise as a beneficial therapeutic tool in type 2 diabetes and the risks it can cause when not applied according to indications.

In detail, postgraduate students should be able to:

1. Know the types of physical exercise recommended in each case (insulin therapy, diet or different antidiabetic tablets) and determine its intensity.
2. Know the risks that may arise from physical exercise and how to treat them.
3. Recommend specific tests, per case (such as fatigue test, autonomic nervous system test, fundus examination), and depending on age and concomitant diseases, so that the appropriate type of physical exercise can then be recommended.

COURSE DESCRIPTION

- Studies on the prevention and treatment of type 2 diabetes.
- Aerobic exercises. Their role in type 2 diabetes.
- Anaerobic exercise (resistance, strengthening) in type 2 diabetes.
- Exercise in type 1 diabetes.
- General guidelines for physical exercise.
- Safety during physical exercise. Prerequisites and tests that precede it.

REFERENCES

- Diabetology, Theory and practice in the treatment of diabetes, Dimitrios Karamitsos, Siokis Medical and Scientific Publications, 2009
- Diabetes Mellitus, modern views, K. Kazakos, 2016

Course Title: Diabetic Foot

Course Code: MK6

Course Type: Specialization Course – “Clinical Diabetology”

Semester: 2nd

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: The "diabetic foot" is a distinct complication of Diabetes Mellitus, in terms of severity and disability that it can cause, as well as financial cost.

The aim of the course is to raise awareness among postgraduate students of this extremely serious complication of Diabetes Mellitus and to equip them with the skills to manage this important health problem.

Specifically, postgraduate students should be able to:

1. Know the magnitude of the diabetic foot problem at a national and global level.
2. Recognize the methods of prevention and early recognition of the diabetic foot

3. Have theoretical training in the pathophysiological disorders that constitute the basic background for the development of ulcers in the extremities of diabetic patients.
4. Be familiar with the methods of diagnosing peripheral angiopathy, peripheral neuropathy and biomechanical gait analysis.
5. Be aware of the nursing interventions for local diabetic ulcer care, as well as modern therapeutic proposals for the treatment of peripheral angiopathy and neuropathy.
6. Recommend special insoles or footwear
7. Be aware of the procedures for fitting an artificial limb and rehabilitation after lower limb amputation.

COURSE DESCRIPTION

- Epidemiology of diabetic foot-Costs of care
- Lower limb ulcers / Infection
- Biomechanics of diabetic foot
- Clinical foot examination - Identification of patients at risk
- Local care of diabetic ulcers
- Charcot arthropathy in DM
- Modern treatments for diabetic ulcers (soft tissue reconstructive options, living skin analogues and growth factors)
- Psychosocial effects of amputation.
- The role of footwear in the prevention of diabetic foot problems

REFERENCES

- The diabetic foot. Aristidis Veves, Translated by Alexis Fotiadis, Panagiotis Tsaklis, 2011
- The foot in Diabetes, Andrew Boulton, 1994
- Diabetes Mellitus, contemporary views, K. Kazakos, 2016

Course Title: Diabetes in Special Patient Groups.

Course Code: ME4

Course Type: Specialization Course – “Clinical Diabetology” & “Therapeutic Education in Diabetes”

Semester: 2nd

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: To familiarize postgraduate students with and be able to deal with special situations in diabetes.

In detail, they should be able to:

1. Recognize and deal with emergency situations such as diabetic hyperglycemic and hypoglycemic coma.
2. Monitor a diabetic patient during pregnancy.
3. Monitor and monitor a patient with end-stage Chronic Kidney Disease and visual impairment.

COURSE DESCRIPTION

- Diabetic ketoacidosis
- Hyperosmotic hyperglycemic state
- Hypoglycemia
- Pregnancy and diabetes.
- Chronic Kidney Disease and diabetes.
- Problems of a patient with visual impairment.

REFERENCES

- Diabetes Mellitus, modern views, ,K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Pathology Netter, 2006

Course Title: Drug Treatment in Diabetes Mellitus

Course Code: MK7

Course Type: Specialization Course – “Clinical Diabetology”

Semester: 2nd

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: To provide information on all current categories of antidiabetic drugs, which aim to reduce hyperglycemia.

In detail, postgraduate students should be able to:

1. Know the efficacy, mechanism of action, adverse effects, potential active effects (except antihyperglycemic), interactions with other pharmaceutical substances and cost.
2. In the context of individualization, as dictated by modern trends in the therapeutic approach to Diabetes Mellitus, to support the correct pharmaceutical choice based on scientific evidence (evidenced based medicine).

COURSE DESCRIPTION

- Basic principles of pathophysiology in Diabetes Mellitus.

- Insulin resistance and Metformin.
- Thiazolidinediones - Glitazone.
- Insulin secretagogues – Sulfonylureas and glitinides.
- Incretin effect – GLP-1 agonists and DPP-4 inhibitors.
- α -glucosidase inhibitors.
- Therapeutic regimen formulation – Selection of appropriate treatment – Therapeutic algorithm in type 2 diabetes.

REFERENCES

- Diabetes Mellitus, modern views, K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Pathology Netter, 2006

Course Title: Insulin Therapy – Insulin Pumps

Course Code: MK8

Course Type: Specialization Course – “Clinical Diabetology”

Semester: 2nd

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: Understanding the necessity of exogenous subcutaneous insulin administration and familiarity with insulin therapy regimens and modern continuous insulin delivery pumps.

In detail, postgraduate students should be able to:

1. Know normal glucose values and therapeutic goals.
2. Know the subcutaneous injection technique and be familiar with modern insulin delivery pens so as to be able to educate patients on the correct administration of insulin.
3. Know the types of human insulin, their duration of action, and insulin therapy regimens.

COURSE DESCRIPTION

- Insulin. Hormone of life.
- Types – Types – Characteristics of insulins.
- Complications of insulin therapy .
- Choice of insulin therapy regimen in type 1 and type 2 diabetes.
- Therapeutic goals and how to achieve them.
- Resistance – Reaction to the start of insulin therapy. How do we overcome the problem?
- Continuous insulin delivery pump
- Future therapies.

REFERENCES

- Diabetes Mellitus, modern views, K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Pathology Netter, 2006

Course Title: Nutritional Care and Exercise in Diabetes Mellitus

Course Code: ME5

Course Type: Specialization Course - "Therapeutic Education in Diabetes"

Semester: 1st

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: Understanding the importance of diet and physical exercise in the prevention and treatment of diabetes.

In detail, postgraduate students should be able to:

1. Know documented views on the role of diet and exercise in the prevention and treatment of diabetes2. (evidenced based medicine)
2. Compose a personalized diet to specific requirements and a physical exercise program and adapt it according to new conditions and situations.

COURSE DESCRIPTION

- Nutrients
- Methods of body weight assessment
- Sweeteners
- Diet recommendation
- Glycemic index
- Aerobic - Anaerobic exercise
- General physical exercise guidelines
- Safety during physical exercise for people with diabetes. Prerequisites and required tests

REFERENCES

- Diabetology, Theory and practice in the treatment of diabetes, Dimitrios Karamitsos, Medical and scientific publications Siokis, 2009
- Diabetes Mellitus, modern views, K. Kazakos, 2016
- Joslin's Diabetes Mellitus, 2015

Course Title: Childhood and Adolescence – School and Diabetes Mellitus.

Course Code: ME6

Course Type: Specialization Course-“Therapeutic Education in Diabetes”

Semester: 2nd

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: To deepen the postgraduate students' understanding of the process of development of values, attitudes and behavior of the child towards Diabetes Mellitus and to deal with the specificities of this age in people with DM.

In detail, postgraduate students should be able to:

1. Manage adequately the psychological upheavals of fragile childhood and demanding adolescence.
2. Manage, through a meaningful and safe relationship with the young patient, special everyday problems that concern these ages.

COURSE DESCRIPTION

- Type 1 Diabetes Mellitus
- Self-measurement and insulin therapy techniques in young patients.
- Obstacles to starting insulin therapy by overcoming problems.
- Nutritional choices.
- Diagnosis – Treatment of hypoglycemia .
- Education groups / Children's camps
- Parent-child and teacher-child relationships in diabetes.
- Adolescence problems – Sexual life, relationships between the two sexes
- Compliance of the young patient.

REFERENCES

- Diabetes Mellitus, modern views, K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Pathology Netter, 2006
- Joslin's Diabetes Mellitus, 2015

Course Title: Health Education for the Prevention of Diabetes Mellitus.

Course Code: ME7

Course Type: Specialization Course - "Therapeutic Education in Diabetes"

Semester: 2nd

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: Important studies in recent years have confirmed the important role of healthy dietary intervention in the prevention of type 2 diabetes.

A reduction of approximately 60% in the risk of developing diabetes in individuals who had an increased risk of developing diabetes was achieved with diet combined with physical exercise.

The objectives of the course are for postgraduate students to understand the importance of health education and prevention in type 2 diabetes and to propose new healthy lifestyle models.

In detail, postgraduate students should be able to:

1. Know and promote positive health models and debunk negative models.
2. Know and promote community empowerment techniques, so that susceptible individuals are removed from the risk of developing diabetes.
3. To know the legislative regulations at the National and European level and the mechanisms for promoting health education through institutions, within the framework of their capabilities.

COURSE DESCRIPTION

- Obesity and diabetes.
- Physical exercise and diabetes.
- Diabetes prevention studies.
- The position of advertising and the modern lifestyle.
- Empowerment techniques.
- Illness behavior.
- Attitude of the family - the school - the state to prevention.
- European prevention program.

REFERENCES

- Diabetes Mellitus, modern views, K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Netter's Pathology, 2006
- Joslin's Diabetes Mellitus, 2015

Course Title: Care Plans in Diabetes Mellitus

Course Code: ME8

Course Type: Specialization Course - "Therapeutic Education in Diabetes"

Semester: 2nd

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: To enable postgraduate students to assess the health problems of the diabetic patient and to design and implement a nursing plan, aiming at addressing and solving the problems.

In detail, postgraduate students should be able to:

1. Assess the extent of the health problem, on the one hand by collecting information from the patient and the family environment (history) and on the other hand by searching for symptoms and other accompanying diseases and conditions.
2. Make a Nursing Diagnosis, which includes the identification of health problems that can be resolved through nursing actions
3. Clearly identify the intended goal for the recovery of the problem.
4. To clearly identify the intended goal for the restoration of the problem
5. To know the pathophysiological background of the health problem to be solved, so as to adequately justify and document the nursing interventions they chose to perform in order to restore the disorder.

COURSE DESCRIPTION

- Introduction to Nursing Care
- Hyperglycemia in a Newly Diagnosed Patient with Diabetes Mellitus
 - o Example - Nursing Care Plan
- Diabetic coma. Hyperglycemia or hypoglycemia?
 - o Example - Nursing Care Plan
- Intermittent cholestasis – Cramps – Peripheral vasculopathy
 - o Example - Nursing Care Plan
- Vomiting in a pregnant diabetic woman
 - o Example - Nursing Care Plan
- Weakness, fatigue, vomiting in Diabetes Mellitus with Chronic Kidney Disease (CKD)
 - o Example - Nursing Care Plan
- Hospitalized Diabetic Patient
 - o Nursing Care Table
 - o Vital signs monitoring table
 - o Disease course table
 - o Medication administration table (avoidance of errors during medication administration)
- Guidelines for:
 - o Venous and capillary blood sampling procedure
 - o Transfusion protocol
 - o O2 administration with mask
 - o Movement patients

ο 24-hour urine collection.

- Doctor-nurse-patient communication

- **REFERENCES**

- Doenges Merilynn E., Moorhouse Mary Frances, Murr Alice C. (2009). Nursing care plan development guide, Athens, BROKENHILL PUBLISHERS LTD
- PamelaLynn (2012). Clinical nursing skills and nursing process, Athens, BROKENHILL PUBLISHERS LTD
- Danae Papadatou, Thalia Bellali (2008). Basic knowledge of psychology for health professionals, Athens, Kritiki Publications

Course Title: Patient Education in Diabetes Mellitus and Insulin Therapy.

Course Code: ME9

Course Type: Specialization Course – “Therapeutic Education in Diabetes”

Semester: 2nd

Teaching Units / ECTS: 5

COURSE AIMS AND OBJECTIVES: To understand the value of therapeutic education for patients with Diabetes Mellitus, which is an integral part of the therapeutic approach.

In detail, postgraduate students should be able to:

1. Educate patients with Diabetes Mellitus by combining the transmission of modern knowledge and information with a patient-centered approach and aiming at the mobilization and development of patients' skills.

2. Ask open questions and allow patients to express themselves freely and give them "space" so that with their guidance, patients can choose the solution that suits them.

COURSE DESCRIPTION

- Education in chronic diseases
- Active participation in education
- Acceptance of the health problem
- Treatment of hypoglycemia
- Maintaining an individualized diet
- Incorporating physical exercise into daily life
- Foot care by patients
- Insulin therapy
- Sick days
- Travel/Holidays and diabetes

REFERENCES

- Diabetes Mellitus, modern views, K. Kazakos, 2016
- Diabetology. Theory and practice in the treatment of diabetes mellitus. D. Karamitsos, 2009
- Pathology Netter, 2006

3rd SEMESTER

Postgraduate Diploma Thesis

Semester: 3rd

Teaching Unit / ECTS: 30

AIMS AND OBJECTIVES: The scientific approach through research is the most complete method of acquiring systematic and valid knowledge. Research is an integral part of the Health Sciences. After 2 academic semesters, postgraduate students are considered capable of evaluating and judging the value and reliability of research studies and are themselves able to carry out research projects in the field of Health Sciences.

Clinical Practice

Semester: 3rd

Teaching Units / ECTS: 30

AIMS AND OBJECTIVES: The aim of the Clinical Internship is for students to come into contact with patients and to apply the theoretical knowledge they acquired during the previous two semesters of their studies in practice.

DESCRIPTION

- medical history
- clinical examination of patients with diabetes mellitus
- diagnostic and therapeutic approach
- modern oral and injectable antidiabetic therapies
- modern insulin therapy regimens
- technique of modern insulin pumps

TOTAL ATTENDANCE FOR THE THREE SEMESTERS: 90 credit units