ΜΗΤΡΟΠΟΛΙΤΙΚΟ ΚΟΛΛΕΓΙΟ
GLOBAL UNIVERSITY HUB

POSTGRADUATE CERTIFICATE IN DIABETES AND OBESITY IN PRIMARY CARE

Co-delivered by
METROPOLITAN COLLEGE

AND by
UNIVERSITY MIGUEL HERNANDEZ

Endorsed by
PRIMARY CARE DIABETES GREECE (PCDG)

TABLE OF CONTENTS

Rationale

Diabetes is reaching pandemic proportions. According to the WHO, between 2000 and 2016, there was a 5% increase in premature mortality from diabetes while in 2019, diabetes was the ninth leading cause of death with an estimated 1.5 million deaths directly caused by diabetes. A recent nationwide study in Greece revealed a 7% diabetes prevalence in the general population and an 8.2% in population over 15 years old.

Obesity is strongly linked to diabetes; as much as 80-85% of the risk of developing type 2 diabetes is attributed to obesity, and obese people are up to 80 times more likely to develop type 2 diabetes than non-obese individuals. Both obesity and diabetes are major risk factors for cardiovascular diseases, which are the leading cause of death.

Diabetes and obesity prevention and management are key to halting further increase in disease death rates. Proper treatment requires the cooperation of the primary care physician (PCP), the diabetes and obesity specialist, the allied health professionals as well as the patient himself. Still, the challenge is that diabetes has progressively turned into a complex disease, due to the multiple medication categories and medical devices for diabetes management, the need to avoid hyper- and hypoglycemia and to facilitate patients' lifestyle changes. On the other hand, obesity is still considered a "lifestyle disease" in many health systems, while appropriate patient counseling and disease treatment are still not delivered efficiently.

To that end, specialized diabetes and obesity educators can empower people to prevent diabetes and obesity or manage it once they occurs. They teach, coach and guide patients so they understand their diabetes and obesity and how they affect their personal lives, and work with them to set (and meet) behavior change goals to improve their health. Specialized diabetes and obesity educators are licensed healthcare professionals – registered nurses, registered dietitians and pharmacists, among others – who receive special training on diabetes and obesity from a biological, psycho-social, communication, and technological perspective, and are knowledgeable of cutting-edge diabetes and obesity research on these fields.

In Greece, there is currently no such specialized training for health professionals and the burden of diabetes and obesity education falls primarily on primary care physicians or diabetes and obesity specialists. Notably, in Greece, there is a lack of primary care gatekeeping system, allowing patients to bypass PCPs and directly seek specialist care. Nevertheless, according to our study published in Primary Care Diabetes (Domeyer et al, 2021) only 15.9% and 11.9% of primary care patients across Greece acknowledged having chosen a diabetes specialist for their initial or current treatment, respectively. As a result, the need of timely diabetes and obesity prevention and evidence-based diabetes and obesity management in the Greek primary care with the need of specialized health professionals is imperative. In addition, although primary healthcare professionals are increasingly involved in management of diabetes and obesity in primary care on a European level, to our knowledge no educational training programme in diabetes and obesity focusing on primary care currently exists.

The Institutions

Metropolitan College (MC) started its operation in 1982 and today it is the largest College for University Studies in Greece with 8 campuses across the country, over 90 undergraduate and post graduate programmes, and more than 5000 registered students. The undergraduate and postgraduate courses offered are validated and approved by collaborating European state universities and fall under the current provisions on the process of accreditation of professional qualifications, as laid down in current legislation and set out by the Ministry of Education.

The Faculty of Health Sciences is the largest School of MC accounting for about half the student capacity of the college. It offers 8 undergraduate and 4 postgraduate courses and is organized in two Divisions: the Division of Rehabilitation Sciences and the Division of Health Sciences. The latter includes undergraduate programmes in Dietetics and Biomedical Sciences, and postgraduate courses in Sport and Exercise Nutrition and in Medical Genetics and Genomics.

The recently established Metropolitan College Diabetes Training, Research & Education Centre (DiTREC) in collaboration with the Division of Health Sciences and its qualified academic staff, aims to design and offer training courses on diabetes for health professionals as well as the public. Its vision is to position diabetes care education in a central and visible standpoint within Health Sciences higher education in Greece and contribute to the upgrade of diabetes knowledge and skills in health professionals and members of the public.

University Miguel Hernandez started its operation in 1997 and it is a public university in Spain with 4 campuses across the province of Alicante with a population of 2 million people, over 28 undergraduate 13 PhD programmes and 52 official post graduate programmes (masters), and more than 15000 registered students, being women 59.3%. The undergraduate and postgraduate courses offered are validated and approved by collaborating European state universities and fall under the current provisions on the process of accreditation of professional qualifications, as laid down in current legislation and set out by the Spanish Ministry of Education.

The Faculties of Medicine and Pharmacy offers 5 undergraduate and 18 postgraduate courses and includes undergraduate programmes in Medicine, Pharmacy, Podiatric, Physiotherapy and Occupational Therapy. The Faculty of health and social sciences includes 2 undergraduate programmes in sport sciences and psychology.

The institution usually offers diabetes training courses, and research activities in both clinical and basic diabetes research. There are two international research Institutes supporting these investigations: Institutes of Neurosciences and Institute of Research, Development, and Innovation in Healthcare Biotechnology.

The Training Programme philosophy

At a time when our diabetes knowledge and treatment options have advanced so much, why do clinical outcomes remain suboptimal, with so many patients unable to achieve good control of their disease?

The answer lies in three distinct challenges:

1. Keeping up with rapidly evolving options for diabetes management
2. Adopting a patient-centered approach
3. Overcoming structural healthcare barriers that require clinical strategies to fit within a particular mold

The proposed training programme is uniquely tailored for the needs of primary care professionals and is designed to equip health professionals to meet these challenges, in order to provide evidence-based, optimal care to their patients. It emphasizes the needs and concerns of people with diabetes, those who care for them and in particular, the importance of enabling the person with diabetes to manage his/her own health care. The existing skills and experience of participants are valued, shared and utilised within the programme.

Participants are at the centre of the learning process, taking an active role throughout and are encouraged to take responsibility for their own learning in a supportive and facilitative environment.

Programme preparation and endorsement

The training programme has been drafted by an expert committee with members appointed by: a. the Metropolitan College DiTREC, b. the University Miguel Hernández,
c. Primary Care Diabetes Greece (PCDG). The programme has been endorsed by PCDG, is validated by both the University Miguel Hernández and the Metropolitan College, and will be delivered both in Spain and in Greece.

The University Miguel Hernández is a public University in Spain, committed to continuous incorporation of innovation and excellence to continue climbing the rankings of the best universities within its surroundings. According to various university quality indicators, the Miguel Hernández University of Elche is found among the top Spanish universities in the parameters of innovation and technological development, in teaching, and in the area of industry, innovation, and infrastructure. It demonstrates a considerable experience in delivering bachelors, masters and postgraduate programmes. In the case of diabetes, it demonstrates a consider- able research and teaching experience by means of the diabetes research unit and the provision of postgraduate training in diabetes.

PCDG is a nonprofit NGO based in Greece. Its mission is to promote the study, continuing scientific training and research in the field of Diabetes in Primary Health Care, with emphasis on Type 2 Diabetes, with the aim of improving the health and quality of life of patients with diabetes.

Who is the Training Programme aimed at?

This is an interdisciplinary programme aimed at health professionals (i.e. physicians, nurses, dieticians/ nutritionists, pharmacists) treating patients at high risk for or diagnosed with diabetes, with a focus on primary care.

Admission requirements

Applicants should:

1. Hold a bachelor's degree in health sciences, preferably in Medicine, Nursing, Dietetics, Pharmacy, Dentistry and Biology.
2. Document sufficient knowledge of the English language (B2 level).

Candidates selection criteria

Selection criteria include:

1. University degree class.
2. Postgraduate certificates relevant to the subject of the programme.
3. Research activity.
4. Clinical or professional experience related to the subject of programme.
5. Documentation of excellent (C2) or advanced (C1) knowledge of the English Language (C2).
6. Up to two letters of recommendation from faculty members or researchers of recognized domestic or foreign research institutions, who hold a doctorate degree or scientists of recognized prestige, knowledge or experience.
7. Scholarships, honors, awards received by the candidate.
8. Information about the candidate's soft skills, career plans and goals oriented to primary care that will emerge from the personal interview.
9. Any other information related to the qualifications of the candidates as evidenced by the supporting documents submitted.
10. Motivation letter.

Early-career scientists are strongly encouraged to submit their candidacy.

Programme highlights

The programme aims to provide learners with up-to-date knowledge to improve outcomes for patients and healthcare systems. It focuses on individualized proactive care of people with diabetes incorporating prevention of complications and promoting of self-care strategies. Programme highlights:

- The latest scientific information on national and international epidemiology, the

physiology and pathology of diabetes and obesity, and their links to other metabolic diseases.

- Guidance to assess biological, psychological, emotional, social, financial and cultural factors that impact the development and progression of diabetes and obesity.
- Expert guidance to design comprehensive treatment programs (non-pharmacological and pharmacological) for patients with diabetes and obesity, and best practices that drive more effective treatment plans.
- Comprehensive review of evidence-based principles of self-care and goal setting for a patient with diabetes.
- Overview of current and emerging anti-diabetes medications.
- The latest scientific information on how to adopt a holistic patient approach and to reduce cardiovascular and renal disease risk in patients with type 2 diabetes, with an emphasis on primary care.
- Strategies to assess and improve low adherence to therapy.
- How to tackle obesity (pharmacological and surgical management).
- Developing interpersonal and effective communication skills in relationships with people with diabetes, with or without obesity, family members/carers and colleagues in the delivery of diabetes care.
- Applying up-to-date patient education and behavior change methods.
- Research breakthroughs.
- Optimizing diabetes care for treating special populations.

Programme outline

This yearly Postgraduate Programme lasts two academic Semesters. Semester A, named 'Essential Training in Diabetes and Obesity in Primary Care' and semester B, named 'Advanced Training in Diabetes and Obesity in Primary Care'. Semester A provides all core knowledge, skills and competencies to tackle the challenges of diabetes and obesity and provide personalized care to patients, while Semester B equips health professionals with in-depth knowledge, skills and competencies to fully address current challenges in diabetes and obesity patients and to provide best evidence care meeting the highest standards.

Programme content

Semester A: 'Essential Training in Diabetes and Obesity'

This semester includes **seven (7) modules** cover the core competencies that healthcare practitioners from any discipline can integrate into their practice settings (19 ECTS credits):

1. Epidemiology, pathophysiology and diagnosis of obesity.
2. Epidemiology, pathophysiology and diagnosis of diabetes.
3. Evaluation of diabetes, obesity and assessment of comorbidities.
4. Person-centered education and quality of care.
5. Risk management and prevention of diabetes and obesity.

6. Psychological aspects of diabetes and obesity.
7. Workshop on essential diabetes and obesity care.

Semester B: 'Advanced Training in Diabetes and Obesity'

This semester includes seven (7) modules provide learners with advanced competencies to improve outcomes for patients and healthcare systems, focusing on individualized proactive and integrated care of people with diabetes and/or obesity (21 ECTS credits)

1. Obesity and weight management.
2. Diabetes management.
3. Diabetes complications.
4. Diabetes in specific groups.
5. Integrated diabetes and obesity care. Diabetes technology.
6. Diabetes and obesity research methodology.
7. Workshop on advanced diabetes and obesity care.

Programme structure and delivery mode

The entire programme is equivalent to 40 ECTS credits) and enables students to combine work and study. Throughout the programme students will be encouraged to take an active role in their own learning and have the opportunity to share experiences and practice with tutors and fellow students. The programme includes presentations and simulations from leading experts in the field, enriched by clinical case scenarios. A blended learning approach is adopted, enhancing the teaching and learning experiences for students and teachers by combining online learning components with face-to-face learning activities.

During the onsite activities, hands-on workshops on pragmatic diabetes and obesity care will take. Participants will be given the opportunity to develop their skills in areas such as motivational intertherapeutic targets, and receive personalized guidance and feedback on their clinical performance by experts in the field. Finally, the interaction between students of different academic backgrounds is expected to promote interdisciplinary diabetes management and further enhance clinical outcomes achieved by the learners.

Hands-on workshops will be delivered in Athens.

Academic teaching staff

The Academic teaching staff team comprises UMH and MC lecturers as well as invited experts in the field with a range of back grounds, all of whom have extensive theoretical knowledge and practical experience. Backgrounds include but are not restricted to General practice, Diabetology, Dietetics, Health Psychology, Podiatry.

Practice impact

During this programme, students will gain new, encompassing, evidence-based approaches to address the challenges seen in most clinical practices. More importantly, they will leave with knowledge—part art, part science—to make a real difference in the lives of their patients.

Optimised for both onsite and remote education

This programme has been enhanced for blended learning. All recorded online sessions will be made available to participants for online viewing for 60 days after the end of the course. Along with recordings and course presentations, additional resources such as guidelines, re cent articles and relevant patient education materials will also be available.

Assessments

All applicants having completed the modules of the entire programme and having successfully undertaken the final written exam are entitled to receive the 'Postgraduate Certificate in Diabetes and Obesity in Primary Care'.

The final written exam at the end of each semester consists of multiple-choice questions emphasizing on practical aspects of diabetes care in daily clinical practice.

Module descriptors

1st Semester: 'Essential Training in Diabetes and Obesity in primary care'

MODULE 1

Module Title	Epidemiology, pathophysiology and diagnosis of obesity
Module Code	D11
Mode of Delivery	Online
Synchronous online teaching	3 hours
ECTS	3
Module aims	• To provide insight into the physiology of appetite and weight control pathophysiology • To provide insight into obesity epidemiology and pathophysiology • To develop a clear understanding of the diagnosis and classification of diabetes
Module learning outcomes	After completing this module, the student should be able to: • Describe the global and national disease burden related to obesity • Analyze the nutritional status of the patient and understand the basics of a balanced diet • Diagnose and classify a patient with obesity.
Module Content	A. Physiology of Appetite and Weight Control Pathophysiology • Expand understanding of the basic principles of energy balance • Acquire skills in the calculation of the energy balance • Analyze the different methods for assessing nutritional status • Review new pathways, hormonal, metabolic, etc., that regulate neuroendocrine function, energy homeostasis, and metabolism in humans • Analyze subcutaneous adipose tissue and the role of dysfunctional adipose tissue in the development of obesity • Explain the role of the intestinal microbiota and its implications in diseases • Review the basics of a balanced diet B. Etiopathogenesis of Obesity

	• Know in depth the genetic factors of monogenic and polygenic obesity • Acquire knowledge about how epigenetics may influence the development of Obesity • List the different causes of secondary obesity in relation to endocrinopathies and drugs and drugs • Analyze advances in nutritional genomics, both in nutrigenetics and nutrigenomics • Establish the relationship between environmental factors and the development of obesity • Review and learn about the various endocrine disruptors and their role as obesogenic agents • Explain the connection between obesity and level of economic status • Study how circadian rhythm alterations influence the expression of enzymes and hormones involved in metabolism • Review the risk of loss of muscle mass and subsequent development of sarcopenia in relation to obesity C. History Definition. Diagnosis and Classification. Epidemiology • Gain an in-depth understanding of obesity as a clinical condition and its historical evolution • Interpretation and integration of anthropometric data • Know and be able to interpret the impact-based obesity classifications (ABCD) and the Edmonton system • Know the epidemiology of obesity in childhood, adulthood and its complications • Identify that this is more of a clinical syndrome that requires an exhaustive phenotypic characterization • Correctly evaluate a patient with Obesity, throughout the different periods of life • Interpreting the existence of the so-called metabolically healthy obese

MODULE 2

Module Title	Epidemiology, pathophysiology and diagnosis of diabetes.
Module Code	D12
Mode of Delivery	Online
Synchronous online teaching	3 hours
ECTS	3
Module aims	• To provide insight into diabetes epidemiology and pathophysiology • To develop a clear understanding of the diagnosis and classification of diabetes
Module learning outcomes	After completing this module, the student should be able to: • Describe the global and national disease burden related to diabetes • Outline the diagnostic tests and related criteria for diabetes • Understand the various types of diabetes and outline their key clinical characteristics and differences • Appraise the fundamental physiological and pathological principles of diabetes • Acknowledge and apply diabetes prevention strategies
Module Content	A. The Concept of Diabetes. Epidemiology • Expand and acquire the latest skills and news about Diabetes as a chronic, complex and progressive disease • Acquire knowledge of the classification of Diabetes, and the wide spectrum of etiologies that lead to its development • Deepen the epidemiology of type 1 diabetes and its determinants • Deepen the epidemiological impact of type 2 diabetes as an epidemic in our environment • Acquire the knowledge and skills to detect diabetes early in the population, through screening techniques • Incorporate the concept of public health in Diabetes B. Pathophysiology of Diabetes

	• Deepen the basic knowledge of glucose homeostasis • Analyze the etiopathogenic mechanisms of type 1 diabetes • Know what insulinitis is and how it occurs in type 1 diabetes • Deepen in the etiopathogenic mechanisms of type 2 diabetes that will serve as therapeutic targets for the same • Understand the essential role of adipose tissue and its excess (obesity) in the genesis of type 2 diabetes • Acquire the knowledge and skills of insulin resistance measurement • Studying the mediating role of inflammation between obesity and diabetes • Know the alterations in the regulation of gastrointestinal hormones in type 2 diabetes and what is the incretin effect • Learn about a new avenue of research in the field of diabetes etiopathogenesis: Intestinal microbiota • Delve into new mechanisms involved in type 2 diabetes, such as the role of the central nervous system as an organ regulating body weight • Learn what is the natural history of type 2 diabetes • Knowing how to prevent or delay the development of type 1 and type 2 diabetes, by acting on the etiopathogenic mechanisms involved C. Diagnosis of Diabetes • Present the diagnostic criteria and diagnostic challenges of diabetes • Diabetes classification and subtypes

MODULE 3

Module Title	Evaluation of diabetes, obesity and assessment of comorbidities
Module Code	D13
Synchronous online teaching	3 hours
ECTS	3
Module Aims	• To present the components of the comprehensive diabetes medical evaluation in detail • Acquire the necessary knowledge to transmit to the patient the priorities in the therapeutic approach • Acquire the skills to know the patient's preferences, social, economic and cultural environment and expectations in the treatment of Diabetes • To familiarize students with common comorbidities that affect people with diabetes and may complicate management • Become familiar with the concept of comorbidity associated with obesity and deepen understanding of the pathophysiology of these comorbidities • Recognize the relationship between lipid disorders and obesity, especially atherogenic dyslipidemia
Module Learning Outcomes	After completing this module, the student should be able to: • Develop and implement an assessment and treatment plan for the patient with diabetes • Estimate risk of diabetes complications • Set patient treatment goals and outline therapeutic plans on an individual basis • Screen and detect common comorbidities of patients with diabetes and obesity • Provide appropriate referrals for initial care management according to best practice recommendations • Identify the pathophysiological mechanisms linking hypertension, diabetes and obesity

Module Content	• The chronic care model. The Kaiser Permanente Model. • Patient-centered collaborative care • Holistic person-centered approach to diabetes management; the components of care • Components of the comprehensive diabetes medical evaluation at initial, follow-up, and annual visits • Glycemic targets • Immunization scheme for adult patients with diabetes • Identification and assessment of diabetes comorbidities • Study the different endocrine-metabolic and cardiovascular comorbidities • Specialize in non-metabolic and non-cardiovascular comorbidities associated with obesity, especially respiratory and digestive comorbidities, etc. • Review the basic concepts on the available scientific evidence of these pathologies and especially the relationship between obesity and cancer

MODULE 4

Module Title	Person-centered education and quality of care
Module Code	D14
Mode of Delivery	Online
Synchronous online teaching	3 hours
ECTS	2
Module Aims	• To provide a detailed person-centered approach for patients living with diabetes • To present patient education strategies • To outline the basic principles of diabetes registries • To present quality of care indices for diabetes management
Module Learning Outcomes	After completing this module, the student should be able to: • Deploy a person-centered strategy for a comprehensive assessment of persons living with diabetes • Implement patient education strategies for promoting patient awareness and disease self-management • Understand the value of diabetes registries in enabling high quality diabetes care • Understand quality of care indicators that are important and can be feasibly used in the general practice setting • Perform a clinical audit in his/her practice using diabetes quality of care indicators
Module Content	• Person-centered care of the patient living with diabetes • Patient education: The ABCs of diabetes; patient education strategies • Basic principles of diabetes registries • Diabetes quality of care indicators for primary care

MODULE 5

Module Title	Risk management and prevention of diabetes and obesity
Module Code	D15
Mode of Delivery	Online
Synchronous online teaching	3 hours
ECTS	3
Module Aims	• To provide students with detailed knowledge about cardiovascular disease in patients with diabetes • To familiarize students with the use of available cardiovascular risk calculators • To present hypertension and lipid management strategies in detail • Identify the high prevalence of overweight and obesity in childhood and its importance for the association of other diseases, such as hypertension and diabetes • Establish recommendations for a healthier lifestyle to prevent childhood overweight and obesity
Module Learning Outcomes	After completing this module, the student should be able to: • Use risk calculators to assess individual patient risk for major adverse cardiovascular outcomes • To implement individualized patient risk reduction strategies • To set individualized blood pressure and lipid targets • To acknowledge the indications and use of antiplatelet medications in patients with diabetes • To adopt individualized treatment strategies with proven cardiovascular benefits for patients with diabetes
Module Content	• Cardiovascular outcomes risk calculators • Strategies for cardiovascular risk factor management • Treatment strategies and individualized treatment targets • Hypertension/blood pressure control • Lipid management • Cardiovascular disease in patients with diabetes: screening, lifestyle and pharmacologic interventions for treatment and risk reduction

MODULE 6

Module Title	Psychosocial aspects of diabetes and obesity
Module Code	D16
Mode of Delivery	Online
Synchronous online teaching	3 hours
ECTS	4
Module Aims	• To familiarize students with the psychological make-up of patients with diabetes • To outline the most common psychiatric comorbidities in patients with diabetes • To present psychotherapeutic management principles in patients with diabetes • To familiarize students with psychological aspects of patients with obesity
Module Learning Outcomes	After completing this module, the student should be able to: • Understand the emotional distress of the patients with diabetes and its impact on disease progression • Acknowledge the factors contributing to or perpetuating diabetes distress • Screen, assess, treat and prevent diabetes distress and its impact on patients • Differentiate between diabetes distress and common psychiatric comorbidities • Understand key management principles of diabetes distress and psychiatric comorbidities of diabetes • Understand the emotional impact of obesity on patients • Present the psychotherapeutic approach from the cognitive-behavioral therapy approach that has proven to be the most effective treatment to address obesity in both children and adults • Stress the importance of early detection of the psychological and educational variables that contribute to the development of eating disorders and obesity in order to carry out preventive activities
Module Content	• Neuroendocrine connection between depression and diabetes • Diabetes distress and its management • Psychiatric comorbidities of patients with diabetes • The links between psychological disorders, inflammation and cardiovascular outcomes • Psychotherapeutic management of diabetes distress and psychiatric comorbidities of diabetes • Emotional burden of obesity • Main comorbid psychiatric disorders associated with obesity and psychopathology related to eating disorders • Key aspects and management of binge eating disorder and its relationship with obesity and overweight

Module Title	Workshop on essential diabetes and obesity care
Module Code	D17
On-site teaching	8 hours
ECTS	1
Module Aims	• To provide students with a pragmatic, hands-on experience on important clinical aspects of diabetes and obesity management
Module Learning Outcomes	After completing this module, the student should be able to: • Formulate patient-centered diabetes treatment plans using a multidisciplinary approach • Formulate patient-centered obesity treatment plans using a multidisciplinary approach • Handle devices and applications most commonly used in diabetes management • Understand how to setup and run a diabetes, obesity and metabolism clinic in primary care
Module content	A detailed description follows

Hands-on workshops on pragmatic essential diabetes and obesity care (8 hours)

This practical workshop series will include **four consecutive two-hours workshops** over one day, aiming at providing learners with a pragmatic, hands-on experience on important clinical aspects of diabetes and obesity management:

Diabetes Management workshop: This is an interactive case-based practical workshop aiming at identifying and overcoming therapeutic inertia and formulating patient-centered diabetes treatment plans using a multidisciplinary approach. Small-group activities and role play will be involved.

Obesity Management workshop: This is an interactive practical workshop aiming at iden- tifying personal and professional barriers to obesity treatment and management, and formu- lating a multidisciplinary therapeutic plan to overcome them. Small-group activities and role play will be involved.

Diabetes Technology workshop: This is an interactive practical workshop aiming at fa- miliarizing the participants with devices and applications most commonly used in diabetes management. This session will include practical demonstration of devices and application technologies, such as blood glucose meters, injectable drugs, continuous glucose monitoring

and mobile phone apps. Hands-on practice will follow.

Diabetes, obesity and metabolism clinic setup workshop: This is a practical, integrated approach workshop, analyzing the training needs, skills, competencies and equipment necessary to setup and run a diabetes, obesity and metabolism clinic in primary care. Expert guidance will be provided to the participants, including successful "how to treat" examples, practical approaches to overcome provider and patient barriers, and to maximize patient adherence to treatment modalities. Models of collaborative and multidisciplinary care will be presented.

During the week corresponding to the workshop, students will be expected to study material relevant to the workshops content.

2nd semester: 'Advanced Training in Diabetes and Obesity in primary care'

MODULE 1

Module Title	Obesity and weight management
Module Code	D21
Synchronous online teaching	3 hours
ECTS	4
Module Aims	• To provide students with a deep insight into evidence-based obesity management strategies, including behavioral, pharmacologic and surgical interventions, for patients with type 2 diabetes • To present evidence-based benefits of obesity and weight management upon diabetes prevention and treatment
Module Learning Outcomes	After completing this module, the student should be able to: • Perform a person-centered assessment of the patient's weight status • Evaluate systemic, structural and socioeconomic factors that may impact dietary patterns and food choices • Provide tailored recommendations for weight loss to patients with diabetes, including dietary changes, physical activity and behavioral strategies • Discuss pharmacotherapy and surgical options for obesity treatment and draft individual patient management plans.
Module Content	• Individualized patient approach: how to • Diet, physical activity including sleep, and behavioral therapy • Pharmacotherapy for obesity management • Medical devices for weight loss • Bariatric surgery

MODULE 2

Module Title	Diabetes management.
Module Code	D22
Synchronous online teaching	3 hours
ECTS	4
Module Aims	• To outline key principles of pharmacotherapy for type 1 diabetes • To present pharmacologic therapy for adults with type 2 diabetes in detail • To familiarize students with the management of type I diabetes in the adult population
Module Learning Outcomes	After completing this module, the student should be able to: • Discuss basic principles of insulin management for type 1 diabetes • Understand factors influencing the choice of first-line therapy of type 2 diabetes • Discuss the need for early combination therapy and its indications • Acknowledge drug and patient specific factors affecting pharmacologic treatment choices • Understand the key results of major cardiovascular outcome trials and their impact on pharmacologic treatment choices • Draft an initial and follow-up plan regarding pharmacologic management of type 2 diabetes • Acknowledge the modes of action and benefits of novel antihyperglycemic agents for the advanced management of type 2 diabetes • Implement intensified treatment approaches for persistent hyperglycemia • Draft a management plan for adult patients with type I diabetes
Module Content	• Drug- and patient- specific factors to consider when choosing antihyperglycemic medications in type 2 diabetes • Patient-centered approaches to choosing pharmacologic agents • Initial and combination therapy • Major cardiovascular outcome trials • Principles of type 2 diabetes intensification plan • Intensified treatment for type 2 diabetes, combination injectable therapy, concentrated and prandial insulins • Principles of type 1 diabetes management

	• Pharmacotherapy for adults with type 1 diabetes: insulin and noninsulin treatment, surgical approaches • Patient follow-up plan

MODULE 3

Module Title	Diabetes complications
Module Code	D23
Synchronous online teaching	3 hours
ECTS	4
Module Aims	• To familiarize students with acute and chronic complications of diabetes • To present key principles of early recognition and management of acute and chronic diabetes complications • To provide insight into advanced management of long-term diabetes complications using the latest available evidence • To familiarize students with the impact of diabetes on quality of life and related aspects
Module Learning Outcomes	After completing this module, the student should be able to: • Identify acute diabetes complications and manage them effectively • Prevent and manage hypoglycemias • Identify cardiovascular disease in patients with type 2 diabetes, estimate patient risk for adverse outcomes and provide therapeutic guidance • Understand and apply in practice recommendations for screening, assessing and treating chronic kidney disease • Understand key principles of screening and treating diabetic retinopathy and neuropathy • Providing appropriate foot care for the prevention, early identification and treatment of diabetic foot complications • Implement comprehensive, patient-centered management strategies, for macrovascular diabetes complications • Assess and effectively manage both acute kidney injury and chronic kidney disease associated with diabetes • Assess and effectively manage heart failure associated with diabetes • Acknowledge advanced management principles related to diabetic retinopathy, neuropathy, foot and skin care • Identify and manage erectile dysfunction, identify periodontal disease and guide the patient accordingly • Understand the detrimental impact of diabetes on sexual health and quality of life and the importance of a multidisciplinary therapeutic approach

Module Content	• Diabetes ketoacidosis and hyperosmolar hyperglycemic state • Hypoglycemias • Cardiovascular disease • Chronic kidney disease • Diabetic retinopathy • Diabetic neuropathy and foot care • Advanced management of macrovascular diabetes complications • Advanced management of diabetes kidney disease; acute kidney injury. Patient follow-up • Heart failure: diagnosis, classification and evidence-based management • Advanced management of diabetic neuropathy and retinopathy. Foot and skin care • Erectile dysfunction, periodontal disease • Sexual health and quality of life in diabetes

MODULE 4

Module Title	Diabetes in specific groups
Module Code	D24
Mode of Delivery	Online
Synchronous online teaching	3 hours
ECTS	3
Module Aims	• To provide insight into the treatment particularities of geriatric patients with diabetes • To familiarize the student with the provision of diabetes care in pregnancy • To present particularities of diabetes management in children and adolescents, ethnic minorities and patients with learning disabilities or mental health issues
Module Learning Outcomes	After completing this module, the student should be able to: • Understand particularities of diabetes management in geriatric patients • Appropriately manage diabetes in pregnancy and provide effective counseling and support in the preconception and postpartum period • Acknowledge and adhere to recommendations for screening and treatment of the disease and its complications in pediatric type 1 and type 2 diabetes • Effectively manage diabetes in ethnic minorities and population subgroups with learning disabilities or mental health issues
Module Content	• Diabetes in older people • Diabetes in pregnancy: from preconception counseling to postpartum care • Management of gestational diabetes mellitus • Management of preexisting type 1 or type 2 diabetes in pregnancy • Drug considerations in pregnancy • Type 1 and type 2 diabetes in children and adolescents • Diabetes in ethnic minorities • Diabetes in people with learning disabilities or mental health problems

MODULE 5

Module Title	Integrated diabetes and obesity care. Diabetes technology.
Module Code	D25
Mode of Delivery	Online
Synchronous online teaching	3 hours
ECTS	3
Module Aims	• To familiarize the students with the objectives, principles and challenges of integrated diabetes and obesity care pathways • To familiarize the students with particularities and challenges of diabetes management in the hospital • To provide insight into innovations aiming to improve the lives of people with diabetes and obesity • To present details of technological advances in diabetes care
Module Learning Outcomes	After completing this module, the student should be able to: • Acknowledge the objectives, key principles and challenges of integrated diabetes and obesity care • Set up and follow individualized priorities in integrated diabetes and obesity care • Acknowledge patient-centered pathways for diabetes care • Understand the principles and particularities of diabetes care in the hospital • Understand emerging and future technological advances in diabetes care • Learn how to apply technology in new forms of medical care for diabetic patients (e-consultation, telemedicine, online training programs...)
Module Content	• Objectives of integrated care in diabetes and obesity • Key principles of integrated care, individualization of care • The social determinants of health • Key challenges in implementing integrated care; barriers to care • Priorities in integrated care • Best practices regarding integrated care solutions • Developing patient-centered pathways for diabetes care • Diabetes care standards, glycemic targets and treatment rationale in the hospital • Blood glucose monitoring, continuous glucose monitoring • Interpretation of the results of continuous glucose monitoring systems

	• Insulin delivery • The role and integration of medical apps into diabetes care • Insulin smartpens, artificial pancreas, diabetes vaccines, cell regeneration

MODULE 6

Module Title	Diabetes and obesity research methodology
Module Code	D26
Mode of Delivery	Online
Synchronous online teaching	3 hours
ECTS	2
Module Aims	• To develop the students' knowledge of research methodologies and research methods. • To provide students knowledge and skills for critical appraisal, synthesis and application of research outcomes in the diabetes and obesity field.
Module Learning Outcomes	After completing this module, the student should be able to: • Critically evaluate the fundamental underpinnings for a range of research methodologies. • Demonstrate in depth knowledge of research methods appropriate for qualitative and quantitative research. • Critically discuss ethical principles which underpin best research practice. • Critically discuss the value of patient and public involvement in research. • Develop an evidence-based proposal for a researchable question for a literature review, a research project or a substantive professional project. • Apply a detailed knowledge of factors influencing research rigor (reliability, validity, plausibility, credibility etc) to the critical appraisal of published diabetes and obesity research. • Synthesise findings / results from a range of published research and draw conclusions.
Module Content	• Fundamentals of quantitative and qualitative research • Ethics in research • Best practices in diabetes and obesity research and patient involvement • Designing a research project • Performing a literature search • Critical reading of scientific articles (critical appraisal skills) • Data synthesis and critical interpretation of data analysis results

MODULE 7

Module Title	Workshop on advanced diabetes and obesity care
Module Code	D27
On-site teaching	8 hours
ECTS	1
Module Aims	• To provide students with a pragmatic, hands-on experience on advanced clinical aspects of diabetes and obesity management
Module Learning Outcomes	After completing this module, the student should be able to: • Formulate patient-centered diabetes treatment plans using a multidisciplinary approach • Formulate patient-centered obesity treatment plans using a multidisciplinary approach • Detect and manage peripheral neuropathy and diabetic foot disease in clinical practice • Assess the presence of peripheral vascular disease using the Ankle-Branchial Pressure Index (ABPI) in primary care
Module content	A detailed description follows

Hands-on workshop on pragmatic advanced diabetes and obesity care (8 hours)

This practical workshop series will include four consecutive two-hours workshops over one day, aiming at providing learners with a pragmatic, hands-on experience on advanced clinical aspects of diabetes and obesity management:

1. **Diabetes Management workshop**: This is an interactive case-based practical workshop aiming at improving participants' skills in managing patients with advanced diabetes with or without complications. Topics include the management of complex cases combining second and third line medications, as well as the creation, analysis and adjustment of basal or basal/bolus therapies, encompassing insulin-to-carbohydrate ratios and sensitivity factors. Other topics include travel plans and insulin dosing errors. Small group activities, role play and moke or real patients may be involved, where appropriate.

2. **Obesity Management workshop**: This is an interactive case-based practical workshop aiming at improving participants' skills in managing patients with long-standing or morbid obesity. Motivational interviewing techniques will be demonstrated by experienced educators and subsequently applied by the participants. Small group activities, role play and moke or real patients may be involved.

3. **Diabetic Foot workshop**: This is a comprehensive workshop run by experienced podiatrists specialized in diabetes care, aiming to enhance the skills of participants in detection and management of peripheral neuropathy and diabetic foot disease. This practical workshop covers, but is not limited to:
   -Comprehensive clinical evaluation and treatment of peripheral neuropathy
   -Comprehensive clinical evaluation and treatment of diabetic foot disease
   -Diabetic foot offloading
   Educational cases and real patients with diabetic foot ulcers may be used. Video based along with live demonstrations can be provided.

4. **Ankle-Branchial Pressure Index (ABPI) workshop**: This workshop is designed to build on the participants' knowledge and understanding of diabetes and wound management, giving them ability to further assess the vascular status of an individual to establish or exclude the presence of peripheral arterial disease (PAD). This practical workshop covers:
   -The rationale behind undertaking an ABPI assessment
   -The principles of Doppler Ultrasound
   -Measuring, calculating and interpreting the ABPI
   -Factors affecting the ABPI
   -Practical demonstration by the educator.
   Hands-on practice will follow.

ΜΗΤΡΟΠΟΛΙΤΙΚΟ ΚΟΛΛΕΓΙΟ
GLOBAL UNIVERSITY HUB

42 Akadimias St., Athens 10672, Greece | T: 210 82 56 708
metropolitan.edu.gr/en/globalhub