

Master of Science in **Diabetes Care** Online



CURRICULUM

MODULE 1

CORE PRINCIPLES

Credit value(s) (CATS)

20 CATS (one of six, 20 credit modules).

Principal Module Aims

This module aims to develop the theoretical knowledge of health care professionals in the area of diabetes care. Emphasis will be placed on the structured system of care which supports patients through screening and diagnosis of their diabetes and maintaining a healthy lifestyle. This module will use current guidelines and evidence-based medicine in diabetes care and require the critical appraisal of literature and practical demonstration of ability.

Principal Learning Outcomes

Successful completion of the module leads to the learning outcomes. The learning outcomes identify the knowledge, skills and attributes developed by the module, which in turn are mapped to the knowledge, cognitive and practical academic principles of the overall programme.

Through critical appraisal of literature, verbal and written discussion and debate with lecturers and peers, and submission of assessments; students should, upon successful completion of the module, be able to:

1. Assess the level of evidence that supports the current state of knowledge and recommendations in the field of diabetes
2. Review and interpret the effects of the burden of diabetes both regionally and worldwide
3. Identify patients with diabetes according to accepted guidelines
4. Evaluate the clinical relevance and set-up of diabetes registers
5. Appraise the necessity for diabetic screening and the strategies for different populations
6. Recognize and analyse the clinical presentation of the different types of diabetes (Type 1, Type 2, gestational diabetes, monogenic and secondary)
7. Evaluate the effectiveness of management of pre-diabetes
8. Interpret the current evidence-based research in the treatment of diabetes

Timetabled Teaching

This module is one of six 20 credit modules delivered in two semesters within a 12-month period. Each module is six weeks in duration:

Week 1: The global epidemiology and burden of diabetes

Week 2: Diabetes diagnosis

Week 3: Screening for diabetes

Week 4: Prevention of diabetes and prediabetes

Week 5: Classification of diabetes

Week 6: Evidence Based Medicine

MODULE 2

SELF-MANAGEMENT OF DIABETES

Credit value(s) (CATS)

20 CATS (one of six, 20 credit modules).

Principal Module Aims

The aim of the module is to engage learners in the critical evaluation and understanding underpinning the philosophy and psychological theories informing a range of interventions within the self-management approach to the control of diabetes.

Success in the module will require the critical appraisal of literature and practical demonstration of ability.

Principal Learning Outcomes

Successful completion of the module leads to the learning outcomes. The learning outcomes identify the knowledge, skills and attributes developed by the module, which in turn are mapped to the knowledge, cognitive and practical academic principles of the overall programme.

Through critical appraisal of literature, verbal and written discussion and debate with lecturers and peers, and submission of assessments; students should, upon successful completion of the module, be able to:

1. Assess the importance of the chronic care model in the management of diabetes
2. Evaluate the key components involved in the self-management of diabetes including self-monitoring, the advice for sick days, vaccine protocol and how to avoid hypos.
3. Recognize and appraise some of the educational programmes such as Dose Adjustment for Normal Eating (DAFNE), Diabetes Education and Self-Management for Ongoing and Newly Diagnosed (DESMOND) and others
4. Critique the role of the patient as the centre for diabetes management including the importance of 'patient empowerment'
5. Have an in-depth understanding of the acute complications of diabetes, including Diabetic ketoacidosis (DKA), Hyperosmolar hyperglycemic state (HHS) and severe hypos and formulate suitable care plans for these cases
6. Demonstrate motivational interviewing skills in patient consultations
7. Assess the approaches to behavioral change, with special emphasis on smoking cessation and immunization
8. Evaluate recommendations and methods to conduct physical activity among patients with diabetes and understand the necessity for exercise prescription

Timetabled Teaching

This module is one of six 20 credit modules delivered in two semesters within a 12-month period. Each module is six weeks in duration:

Week 1: Patient Empowerment & multidisciplinary teams within the chronic care model

Week 2: Psychology and Behavioural Change

Week 3: Structured Education Programmes

Week 4: Physical Activity

Week 5: Self-Monitoring and Sick Days

Week 6: Acute Complications

MODULE 3

TREATMENT

Credit value(s) (CATS)

20 CATS (one of six, 20 credit modules).

Principal Module Aims

The aim of this module is to ensure that students have an up to date knowledge of the latest therapies in diabetes management including the newer therapies such as GLP1 receptor agonists and DPP4 inhibitors, the newer continuous glucose subcutaneous monitoring systems, insulin pump therapies, islet cell transplant and anti-obesity surgery.

Success in the module will require the critical appraisal of literature and practical demonstration of ability.

Principal Learning Outcomes

Successful completion of the module leads to the learning outcomes. The learning outcomes identify the knowledge, skills and attributes developed by the module, which in turn are mapped to the knowledge, cognitive and practical learning objectives of the overall programme.

Through critical appraisal of literature, verbal and written discussion and debate with lecturers and peers, and submission of assessments; students should, upon successful completion of the module, be able to:

1. Analyse the current guidelines in the overall management of diabetes in primary care in relation to meeting the current patient needs and challenges
2. Demonstrate an in-depth understanding of the principles of medical nutrition therapy (MNT)
3. Critically evaluate the use of anti-diabetic agents in the treatment of diabetes and evaluate changes in therapy
4. Examine the potential uses of Continuous Glucose Monitoring (CGM) and insulin pumps in diabetes treatment and demonstrate the preparation and initiation of a patient on to insulin
5. Appraise the current and future use of differing insulin types and their delivery devices
6. Evaluate the use of current surgical procedures for metabolic surgery and other emerging therapies for diabetes
7. Critically assess the present knowledge, understanding and guidance to practitioners on medical management of Type 2 Diabetes in Children and Young Adults.

Timetabled Teaching

This module is one of six 20 credit modules delivered in two semesters within a 12-month period. Each module is six weeks in duration:

Week 1: Rationale for Evidenced based treatment of diabetes

Week 2: Diabetes and Primary Care

Week 3: Drug treatments

Week 4: Using insulin and CSII

Week 5: Surgery to treat diabetes

Week 6: Diabetes in children and adolescents

MODULE 4

MICROVASCULAR COMPLICATIONS

Credit value(s) (CATS)

20 CATS (one of six, 20 credit modules).

Principal Module Aims

The aim of this module is to contribute to the knowledge and critically thinking of the key pathogenetic pathways that eventually lead to the development of devastating chronic diabetic complications which is crucial the implementation of early markers able to identify patients at high risk of developing any microvascular complication and the implementation of new therapeutic strategies to prevent them.

Success in the module will require the critical appraisal of literature and practical demonstration of ability.

Principal Learning Outcomes

Successful completion of the module leads to the learning outcomes. The learning outcomes identify the knowledge, skills and attributes developed by the module, which in turn are mapped to the knowledge, cognitive and practical academic principles of the overall programme.

Through critical appraisal of literature, verbal and written discussion and debate with lecturers and peers, and submission of assessments; students should, upon successful completion of the module, be able to:

1. Examine the current developments in the area of pathophysiology of microvascular complications
2. Critically analyze the pathophysiology and stages of diabetic retinopathy, the risk factors and the issues associated with screening, including ophthalmology referral criteria for diabetic retinopathy
3. Demonstrate key diagnostic skills required in the assessment of complications in diabetic patients
4. Critically evaluate the risk factors, prevention, screening, diagnosis and management strategies for diabetic nephropathy
5. Appraise the pathophysiology and stages of chronic kidney disease
6. Assess the referral criteria for diabetic nephropathy to a nephrologist and their application in practice
7. Scrutinize the pathophysiology, risk factors, prevention, clinical presentation, screening, diagnosis, management, consequences (including neuropathic ulcers), of diabetic neuropathy and autonomic neuropathy
8. Recognise and interpret the pathophysiology, clinical presentation, diagnosis, and management of critical ischemia of the lower extremity

Timetabled Teaching

This module is one of six 20 credit modules delivered in two semesters within a 12-month period. Each module is six weeks in duration:

Week 1: Pathophysiology of microvascular complications of diabetes

Week 2: Diabetic retinopathy

Week 3: Diabetic nephropathy

Week 4: Diabetic neuropathy

Week 5: Foot care in diabetes

Week 6: Introduction to primary, secondary and tertiary complications

MODULE 5

MACROVASCULAR COMPLICATIONS

Credit value(s) (CATS)

20 CATS (one of six, 20 credit modules).

Principal Module Aims

The aim of this module is to elucidate the macrovascular complications associated with the 'diabetes epidemic' including their biological mechanisms, as well as active prevention and treatment strategies at all stages but particularly earlier stages of diabetes.

Success in the module will require the critical appraisal of literature and practical demonstration of ability.

Principal Learning Outcomes

Successful completion of the module leads to the learning outcomes. The learning outcomes identify the knowledge, skills and attributes developed by the module, which in turn are mapped to the knowledge, cognitive and practical academic principles of the overall programme.

Through critical appraisal of literature, verbal and written discussion and debate with lecturers and peers, and submission of assessments; students should, upon successful completion of the module, be able to:

1. Review the pathophysiology of atherosclerosis and other macrovascular complications and critically evaluate their risk factors in diabetic patients
2. Evaluate the importance of cardiovascular disease in the context of diabetic screening, the use of appropriate tools for assessing its risk and the application of lifestyle interventions to reduce these risk factors
3. Examine and evaluate the application of the diagnostic, screening, and therapeutic goal setting criteria for hypertension and dyslipidaemia in patients with diabetes
4. Critically analyze the pharmacological therapies and therapeutic strategies for hypertension and dyslipidaemia in patients with diabetes, including indications for statin treatment in patients with diabetes
5. Demonstrate key diagnostic skills required in the assessment of complications in diabetic patients
6. Appraise the current recommendations for using antiplatelet agents for primary and secondary prevention of cardiovascular disease and the therapeutic alternatives
7. Assess the current evidence in relation to the treatment of heart failure in people with diabetes, and the risk of heart failure associated with antidiabetic agents
8. From the current evidence base, construct plans for treating cerebrovascular disease and peripheral vascular disease in patients with diabetes

Timetabled Teaching

This module is one of six 20 credit modules delivered in two semesters within a 12-month period. Each module is six weeks in duration:

Week 1: Pathophysiology of macrovascular complications

Week 2: Coronary artery disease (CAD)

Week 3: Cerebrovascular disease

Week 4: Peripheral Artery Disease (PAD)

Week 5: Treatment of hypertension and hyperlipidaemia

Week 6: Primary and secondary prevention of macrovascular complications

MODULE 6

SPECIAL CIRCUMSTANCES

Credit value(s) (CATS)

20 CATS (one of six, 20 credit modules).

Principal Module Aims

The aim of this module is to provide an insight into situational, cultural and educational needs of diabetes patients. It also elucidates the impact of social media and impact of research.

Success in the module will require the critical appraisal of literature and practical demonstration of skill.

Principal Learning Outcomes

Successful completion of the module leads to the learning outcomes. The learning outcomes identify the knowledge, skills and attributes developed by the module, which in turn are mapped to the knowledge, cognitive and practical academic principles of the overall programme.

Through critical appraisal of literature, verbal and written discussion and debate with lecturers and peers, and submission of assessments; students should, upon successful completion of the module, be able to:

1. Analyse current best practice in the management of sexual health, birth control and pregnancy patients with diabetes including the diagnosis and prevention of gestational diabetes
2. Examine the strategies for managing diabetes at different stages of life and in the pursuit of different activities including sport and travel
3. Evaluate the management of diabetes during particular cultural/religious events including during Ramadan and the Hajj pilgrimage
4. Appraise the clinical presentation, diagnosis, management and prevention of diabetes in patients with mental health issues
5. Critically evaluate the organisation of Diabetic Care and the Chronic Care Model with reference to special circumstances
6. Review and interpret evidence based medicine in relation to diabetic care in special circumstances
7. Adapt and modify appropriate management plans for individuals in special circumstances

Timetabled Teaching

This module is one of six 20 credit modules delivered in two semesters within a 12-month period. Each module is six weeks in duration:

Week 1: Diabetes and pregnancy (including Gestational Diabetes Mellitus (GDM)

Week 2: Diabetes in later life

Week 3: Sports and travel

Week 4: Ramadan and Hajj

Week 5: Mental health issues

Week 6: Organisation of Diabetes & Chronic Care Model Revisited

SUMMATIVE ASSESSMENT MODULES 1-6 (PG DIP)

(PASS MARK: 50% IN EACH COMPONENT)

Modules 1-6 will be assessed based on the following:

ASSESSMENT	FORMAT	WEIGHTING
Exam	60-minute exam comprising MCQ and Key Feature Problem questions. The examination of Modules 1-3 will take place at the end of Semester 1. The examination of Modules 4-6 will take place at the end of Semester 2.	30% of module
Essay Assignment	2,000-word structured essay requiring student to consider topical issues in diabetes through the critical appraisal of literature. Grading scheme weighted: <ul style="list-style-type: none">• 30% Knowledge and understanding• 50% Analysis, Application, Evaluation• 20% Communication / Referencing	70% of module

i Compensation between assessment components is not permitted.

MODULE 7

RESEARCH IN DIABETES CARE

Credit value(s) (CATS)

60 CATS.

Principal Module Aims

The aims of this module are:

- To develop students' knowledge and understanding of research methods and principles
- To develop students' intellectual abilities using theoretical perspectives and drawing on current experience and previous experiential learning
- To develop students' ability to critically evaluate an area of professional practice relevant to diabetes care
- To develop students' ability to critically appraise the research literature and synthesise their findings
- To develop students' ability to undertake substantial independent study
- To develop students' ability to produce and communicate a piece of work informed by the forefront of research and evaluation, and with the potential for publication for a professional audience

Principal Learning Outcomes

By the end of this module, students should be able to:

- Develop an appropriate research proposal and protocol that addresses a research question or evaluates an area of professional practice within diabetes care
- Demonstrate self-direction and originality in the critical evaluation and synthesis of the research evidence in an area of diabetes care and consider possible developments and improvements for implementation
- Apply the principles and techniques of critical appraisal to evaluate the limitations of research evidence, including complex interventions and studies at the forefront of methodological development in diabetes care
- Justify the choice of methodology and how this applies to research or enquiry within diabetes care
- Demonstrate advanced skills in planning, information gathering and data interpretation and synthesis for research enquiry
- Demonstrate independent analytical and critical thinking

Timetabled Teaching

This module is worth 60 credits & is delivered over 10 months.

Week 1-12: Taught component (Tutorials)

Week 16: Research proposal submission

Week 18-41: Research Project

SUMMATIVE ASSESSMENT MODULE 7 (MSC) (PASS MARK: 50% IN EACH COMPONENT)

Module 7 will be assessed based on the following:

ASSESSMENT	FORMAT	WEIGHTING
Conference Poster Presentation	<p>5 minute poster presentation with follow-up questions from two assessors</p> <p>The poster presentation will take place at the end of the module.</p> <p>Grading scheme weighted:</p> <ul style="list-style-type: none"> • 20% Communication (Verbal) • 20% Communication (Visual) • 20% Knowledge & Understanding • 20% Analysis & Evaluation • 20% Application 	20% of module
Journal Article	<p>4,000-word structured article requiring students to present their findings of their research project.</p> <p>The journal article submission deadline is at the end of the module.</p> <p>Grading scheme weighted:</p> <ul style="list-style-type: none"> • 25% Knowledge & Understanding • 25% Analysis & Evaluation • 25% Application & Referencing • 25% Communication 	80% of module

i Compensation between assessment components is not permitted.

Who is iheed?

iheed is leading the way in delivering high-quality **online medical education**. Built by doctors and healthcare professionals, we have **over 30,000 users** across the globe, and believe that effective, accessible medical education is the key to providing better health outcomes worldwide. **iheed** is a division of Cambridge Education Group.

Since 1952, Cambridge Education Group has been delivering the highest quality academic programmes, providing a valuable stepping-stone for thousands of students to progress onto the world's leading universities and maximise their career opportunities.

Any questions?

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