



DEPARTMENT OF MOLECULAR MEDICINE AND SURGERY

K1F3122, The Global Diabetes Epidemic, 3 credits (hec)

Den globala diabetes epidemin, 3 högskolepoäng

Third-cycle level / Forskarnivå

Approval

This syllabus was approved by the The Committee for Doctoral Education on 2023-11-27, and is valid from spring semester 2024.

Responsible department

Department of Molecular Medicine and Surgery, Faculty of Medicine

Prerequisite courses, or equivalent

No prerequisite courses, or equivalent, demanded for this course.

Purpose & Intended learning outcomes

Purpose

This course will enable the doctoral student to acquire the necessary knowledge to integrate clinical and research knowledge and understanding, competence and skills, judgement and approach in the field of diabetes mellitus in order to facilitate a role as a future scientist, public health specialist and/or clinician in this field.

Intended learning outcomes

After the course the student should be able to show an understanding about the global burden of diabetes in the world, the complications of diabetes disease, the pathogenesis of diabetes as well as prevention and treatment of diabetes.

Course content

Diabetes has now become a high public health concern, due to the escalating epidemic of diabetes in both young and older adults, and the emergence of type 2 diabetes in children. The number of people with diabetes worldwide is set to double in the next 20 years, as a result of increasing obesity, sedentary lifestyle and longevity. While some of this increase will be observed

in Europe and North America, it is clear that the bulk of the epidemic will be observed in non-European origin populations, in countries undergoing rapid westernization [1, 2]. The course will provide an overview of the global epidemic of diabetes disease, classifications of diabetes, pathogenesis of type 1, LADA and type 2-diabetes, diabetes complications, prevention and treatment of diabetes and its complications [3-13].

Forms of teaching and learning

The course consists of lectures, diagnostics, diabetes care and coaching, a project task and examination. Two weeks full time.

Language of instruction

The course is given in English

Grading scale

Pass (G) /Fail (U)

Compulsory components & forms of assessment

Compulsory components

The project task is mandatory for all students and cannot be compensated for. The practical training can only be compensated for in case students can show that it is part of their own professional work already. Missing a lecture can be compensated for by writing an essay about the subject in agreement with the organizer of the course.

Forms of assessment

Formative assessment during carrying out of the project task and of the practical training. Summative assessment during the final seminar where the student will present the project and discuss their own and others' project with the course leaders and the other course participants.

Course literature

1. Cho, N.H., et al., IDF Diabetes Atlas: Global estimates of diabetes prevalence for 2017 and projections for 2045. *Diabetes Res Clin Pract*, 2018. 26(18): p. 30203-1.
2. Zimmet, P.Z., Diabetes and its drivers: the largest epidemic in human history? *Clin Diabetes Endocrinol*, 2017. 3(1): p. 1.
3. Effect of intensive diabetes treatment on the development and progression of long-term complications in adolescents with insulin-dependent diabetes mellitus: Diabetes Control and Complications Trial. Diabetes Control and Complications Trial Research Group. *J Pediatr*, 1994. 125(2): p. 177-88.
4. Alhazmi, A., et al., The association between dietary patterns and type 2 diabetes: a systematic review and meta-analysis of cohort studies. *J Hum Nutr Diet*, 2014. 27(3): p. 251-60.
5. Barot, M., et al., Microvascular complications and diabetic retinopathy: recent advances and future implications. *Future Med Chem*, 2013. 5(3): p. 301-14.

6. Bordier, L., et al., Update on cognitive decline and dementia in elderly patients with diabetes. *Diabetes Metab*, 2014. 40(5): p. 331-7.
7. Esposito, K., et al., Prevention and control of type 2 diabetes by Mediterranean diet: a systematic review. *Diabetes Res Clin Pract*, 2010. 89(2): p. 97-102.
8. Nathan, D.M., *Diabetes: Advances in Diagnosis and Treatment*. *Jama*, 2015. 314(10): p. 1052-62.
9. Ng, M., et al., Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet*, 2014. 384(9945): p. 766-81.
10. Norberg, M. and M. Danielsson, *Overweight, cardiovascular diseases and diabetes: Health in Sweden: The National Public Health Report 2012*. Chapter 7. *Scand J Public Health*, 2012. 40(9 Suppl): p. 135-63.
11. Seferovic, P.M., et al., Type 2 diabetes mellitus and heart failure: a position statement from the Heart Failure Association of the European Society of Cardiology. *Eur J Heart Fail*, 2018. 8(10).
12. Tcherro, H., et al., Cost of diabetic foot in France, Spain, Italy, Germany and United Kingdom: A systematic review. *Ann Endocrinol (Paris)*, 2018. 12(17): p. 30959-9.
13. Wild, S., et al., Global prevalence of diabetes: estimates for the year 2000 and projections for 2030. *Diabetes Care*, 2004. 27(5): p. 1047-53.