



SUBJECT OUTLINE

1. Program of study description

1.1.	"CAROL DAVILA" UNIVERSITY OF MEDICINE AND PHARMACY
1.2.	FACULTY OF MEDICINE /
1.3.	CLINICAL DEPARTMENT II
1.4	DISCIPLINE: ENDOCRINOLOGY AND DIABETES, NUTRITION AND METABOLIC DISEASE
1.5.	DOMAIN OF STUDY: Healthcare – regulated sector within the EU
1.6.	CYCLE OF STUDIES: BACHELOR'S DEGREE
1.7.	PROGRAMME OF STUDY: MEDICINE

2. Subject description

2.1.	Name of the discipline: SCIENCE AND TECHNOLOGY IN DIABETES MELLITUS					
2.2.	Discipline code: DSV 12M					
2.4	Type of discipline: DS					
2.5.	Course tenured coordinator: Conf. Univ. Dr Sorin Dorian Ioacă					
2.6.	Practicals/clinical rotations tenured coordinator:					
2.7	Year of study	IV	2.8. Semester	VII + VIII	2.9 Type of assessment	Written examination

3. Total estimated time (hours/semester of didactic activity) – teaching module

I. Academic preparation (teaching, seminars, evaluation)					
Number of hours per week	2	Out of which: course	2	Clinical rotation	0
Total number of hours from curriculum	14	Out of which: course	14	Clinical rotation	0
Evaluation (hours)					
II Individual preparation (study)					
Time distribution					Hours
Study from textbooks, courses, bibliography, and student notes					8
Additional library study, study on specialized online platforms and field study					12
Preparing seminars / laboratories, assignments, reports, portfolios and essays					12
Tutoring					
Preparing examinations					4
Other activities					
3.7 Total hours of individual study					36
3.9. Total hours per semester					60
3.10 Number of credit points					2

4. Prerequisites (where applicable)

4.1. of curriculum	Not applicable
4.2. of competencies	Not applicable

5. Requirements (where applicable)

5.1. for delivering the course	Video-projector, lecture room
5.2. for delivering the clinical rotation	



6. Learning results

Knowledge	Aptitudes	Responsibility and autonomy
Gaining the ability to merge medicine with technology Acquiring a way of thinking from the perspective of technology		
Acquiring the ability to understand the operation of the insulin pump and its correct use The ability to understand how biosensors work		

7. Subject learning objectives (based on the scale of acquired specific competencies)

7.1. General learning objective	
7.2. Specific learning objectives	

8. Content

8.1. Course	Teaching methods	Observations
Lecture 1. Insulin pump treatment		
Lecture 2. Continuous glucose monitoring systems		
Lecture 3. Implantable devices in diabetes (pumps + CGMS)		
Lecture 4. Artificial pancreas (pumps + CGMS)		
Lecture 5. Stem cell technologies in diabetes mellitus		
Lecture 6. Surgery as a treatment in diabetes mellitus		
Lecture 7. Neonatal diabetes. Discussions. Final evaluation.		

Recent bibliography:



1. „*Textbook of Diabetes, 5th Edition*” Richard I. G. Holt (Editor), Clive Cockram (Editor), Allan Flyvbjerg (Editor), Barry J. Goldstein (Editor), ISBN: 978-1-118-91202-7, 1104 pages, February 2017, Wiley-Blackwell

2. „*International Textbook of Diabetes Mellitus*”, 2 Volume Set, 4th Edition, R. A. De Fronzo (Editor), E. Ferrannini (Editor), P. Zimmet (Editor), George Alberti (Editor), ISBN: 978-0-470-65861-1, 1240 pages, April 2015, Wiley-Blackwell

9 Assessment

Type of activity	Assessment criteria	Assessment methods	Assessment weighting within the final grade
Lectures	Understanding and integration of the specific notions presented during lectures	Multiple choice test	100%
Clinical rotation	NO	NO	0 %

Minimum performance standard

Acquiring general knowledge of using insulin pumps
Acquiring general knowledge on the use of glucose sensors

Date of filing

Signature of the course tenured coordinator

Signature of the seminar tenured coordinator

Conf. Univ. Dr Sorin Dorian Ioacă

20.10.2025

Date of approval in the Council of the Department:

Signature of the Head of the Department

Prof. Dr. Adrian Streinu-Cercel