"Carol Davila" University of Medicine and Pharmacy Bucharest
Quality Assurance Committee

DISCIPLINE SHEET

1. Study programme

1.1.	"CAROL DAVILA" UNIVERSITY OF MEDICINE AND PHARMACY BUCHAREST
1.2.	FACULTY OF DENTISTRY
1.3.	DEPARTMENT II
1.4.	DISCIPLINE HYGIENE
1.5.	STUDY DOMAIN: Health, sectoral regulated within the European Union
1.6.	STUDY LEVEL: I (Bachelor's degree) and II (Master's degree)
1.7.	STUDY PROGRAMME: DENTAL MEDICINE IN ENGLISH

2. Discipline

2.1.	Discipline name according to the study curriculum: HYGIENE				
2.2.	Discipline code: MD04S04EN				
2.3.	Discipline type (FD/SD/CD): SD				
2.4.	Discipline optionality (COD/ED/FAD): COD				
2.5.	Lectures tenure: Conf.dr.Anca Mihaela Pantea Stoian				
2.6.	Practical classes / seminar tenure: Conf.dr.Anca Mihaela Pantea Stoian, As univ.dr Claudiu Teodorescu, As.univ.dr Simona Carniciu				
2.7. Year of study	IV	2.8. Semester	VII	2.9. Evaluation (E/C/V)	C

3. Estimated total time (hours/ semester of teaching and training activity /individual study)

I. University training						
3.1. Number of hours per week	2	from which:	3.2. lecture	1	3.3. practical class/ seminar	1
3.4. Total hours in the study curriculum	28	from which:	3.5. lecture	14	3.6. practical class/ seminar	14
II. Preparation/ individual study						
Time distribution						hours
Study of lecture materials, textbooks, books, study of the minimum recommended bibliography						10
Additional documentation activity in the library, on online platforms						4
Specific preparation activities for projects, practical classes, preparation of assignments, reports						6
Preparation for presentations or evaluations, preparation for the final examination						10
Tutoring activity						1
Other activities						1
3.7. Total hours of individual study						32
3.8. Total hours per semester (3.4.+3.7.)						60
3.9. Number of credits						2

4. Prerequisites (where appropriate)

4.1. curriculum	Knowledge of biochemistry, biophysics, physiology, biostatistics, nutrition, food, and diabetes.
4.2. proficiencies	Knowledge of current laboratory activity.

5. Conditions (where appropriate)

5.1. for lecture activity	Technical support: Multimedia projector, computers, computer software (Windows and data processing)
5.2. for practical class/ seminar activity	Cantacuzino Hospital, INDNBM "Prof.N.C.PAULESCU", Bucharest

6. Learning outcomes*

Knowledge	Skills	Responsibility and autonomy
At the end of the internship, the student must know: - Analysis of situations due to the presence and action of certain pollutants in the environment. - Analysis of sources of pollution of various environmental factors, its metabolism, effects on human health. - Recommendations that can be made to avoid, reduce or eliminate a dangerous situation for human health in the event of acute or chronic exposure to pollution. - Calculation of a food ration, Knowledge of the main sources of nutrients. - Evaluation of a judicious intake of food principles. in accordance with the nutritional needs of	Have the ability to work in a medical team in the field of hygiene. - Have the ability to work in a multidisciplinary team consisting of doctors, biologists, chemists, fields related to the field of hygiene. - Demonstrate professional ethics.	- Appropriate training at the end of the semester in which the hygiene study was conducted provides the prerequisites for subsequent activity in dental offices as well as knowledge and application of hygiene and sanitary norms, empowering and ensuring the autonomy necessary for specific evaluation and activity.

sick and healthy people, - Development of nutritional recommendations for the prevention of dental pathology in children and adults. - Evaluation of somatometric parameters in children and young people. - Method of monitoring the health status of children and adolescents.		

7. Discipline objectives (correlated with learning outcomes)

7.1. General objective	The discipline attempts to form a specialized culture in the field of hygiene and medical ecology. It has three directions of action: environmental hygiene, food hygiene, and hygiene of children and adolescents.
7.2. Specific objectives	Environmental Hygiene evaluates the impact of various polluting elements that may appear in the environment and negatively influence human health as well as the ways to prevent and combat these unwanted effects. Food hygiene presents human nutritional needs, the main sources of nutrients and food safety elements Child and adolescent hygiene aims to evaluate and interpret the elements of physical and neuro-psychic development of the child, identify child growth and development disorders as well as monitor the infant population to avoid harmful effects on health

8. Contents

8.1. Lecture	**Teaching methods**	**Observations**
Course 1- Air pollution: main air pollutants, health effects, reference standards. Course 2 - Water pollution (microbiological, chemical, radioactive). Course 3 - Water treatment and bringing to drinking conditions. reference standards	Courses presented in PPT format, educational films, explanatory animations specific to each course.	

Course 4 - Soil pollution, prevention measures, reference standards. Course 5 - Ionizing and non-ionizing radiation: sources, classification and health effects, standards. Course 6 - Necessary conditions for a healthy habitat. Course 7 - Climate change and health effects. Course 8 - The notion of nutrient, classification of nutrients. Energy requirements Course 9 - Proteins, Carbohydrates, Lipids Course 10 - Fat-soluble vitamins Course 11 Water-soluble vitamins Course 12 - Micro- and Macronutrients Course 13 - General characteristics of the physical and neuro-psychic development process of children. Course 14 - Monitoring the health status of children and young people in educational institutions.		

Recent bibliography:

1. Moldoveanu A.M. (coordonare), IGIENA, Editura Universității „Carol Davila”, București, 2018,
2. Weil, Andrew. Integrative Environmental Medicine. Eds. Cohen, Aly, and Frederick S. vom Saal. Oxford, UK: Oxford University Press,Oxford Medicine,2017.
3. Aly Cohen and Frederick S. vom Saal Integrative Environmental Medicine, Oxford University Press, 2017.
4. Straif K, Cohen A, Samet J Air Pollution and Cancer, ISBNs 978-9-28-322166-1, 978-9-28-322161-6- IARC Scientific Publication No. 161,2013
5. Barupal DK, Schubauer-Berigan MK, Korenjak M, Zavadil J, Guyton KZ. Prioritizing cancer hazard assessments for *IARC Monographs* using an integrated approach of database fusion and text mining. Environ Int.2021.
6. Berrington de Gonzalez A, Daniels RD, Cardis E, Cullings HM, Gilbert E, Hauptmann M, et al. Epidemiological studies of low-dose ionizing radiation and cancer: rationale and framework for the monograph and overview of eligible studies. J Natl Cancer Inst Monogr. (56):97–113, 2020.
7. Linet MS, Schubauer-Berigan MK, Berrington de Gonzalez A. Outcome assessment in epidemiological studies of low-dose radiation exposure and cancer risks: sources, level of ascertainment, and misclassification. J Natl Cancer Inst Monogr. (56):154–175,2020.

8. Chiu WA, Guyton KZ, Martin MT, Reif DM, Rusyn I.Use of high-throughput in vitro toxicity screening data in cancer hazard evaluations by IARC Monograph Working Groups. *ALTEX – Alternatives to animal experimentation*. 35(1):51–64,2017.
9. Betty Dehoney.Last issue of Environmental Practice, Environmental Practice, 21:4, 141-142, DOI: 10.1080/14660466.2019.1678984,2019.
10. Dennis A. Peters (2019) Food Loss and Food Waste, Causes and Solutions, Environmental Practice, 21:4, 174-175, DOI: 10.1080/14660466.2019.1673080
11. Ashok V. Naimpally PhD (Author), Kirsten Sinclair Rosselot PE, PPI FE Environmental Practice – Comprehensive Practice for the NCEES FE Environmental Exam First Edition, ISBN-13: 978-1591266365 Kaplan Company; 2018.
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13. Richard Owusu-Apenten, Ernest Vieira, Elementary Food Science, Springer International Publishing, ISSN1572-0330, 2021.
14. Vickie A. Vaclavik, Elizabeth W. Christian, Tad Campbell, Essentials of Food Science, Springer, ISBN-978-3-030-46814-9,2021.
15. Collins GCSE, Fiona Balding, Kath Callaghan, Suzanne Gray, Barbara Monks and Barbara Rathmill, With Louise T Davies, Collins GCSE Grade 9-1 Revision - AQA GCSE 9-1 Food Preparation and Nutrition All-in-One Complete Revision and Practice, ISBN 978-0-00-816634-2,2017.
16. Charis Galanakis, Food Security and Nutrition First Edition, ISBN: 9780128205211, Elsevier, 2020.
17. https://www.fao.org/nutrition/nutrition-education/food-dietary-guidelines/en/
18. https://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/romania/en/
19. Jim Mann, A. Stewart Truswell, Essentials of Human Nutrition,Oxford University Press, 2017
20. Hooper L, Abdelhamid A, Bunn D, Brown T, Summerbell CD, Skeaff CM. Effects of total fat intake on body weight. Cochrane Database Syst Rev.(8):CD011834. 2015
21.WHO, An action package to eliminate industrially-produced *trans*-fatty acids.

8.2. Practical classes/ seminar	**Teaching methods**	**Observations**
PL 1 - Determination of carbon monoxide in the air. Determination of carboxyhemoglobin in the blood. PL 2 - Determination of sulfur dioxide in the air. Determination of nitrogen dioxide in the air. Methodology for conducting health impact assessment in exposure to irritant pollution PL 3 - Determination of lead in the air. Determination of the effects of lead on human health. PL 4 - Determination of bacteriological contamination of air and surfaces.		

PL 5 - Determination of bacterial contamination of water. Water disinfection. Determination of chemical pollution of water. PL 6 - Determination of soil pollution (bacteriological and chemical). Thermal environment. Air pollution. PL 7 - Ionizing and non-ionizing radiation - measurement methods. PL 8 - Milk and dairy products. Egg PL 9 - Meat and meat preparations PL 10 - Vegetables and fruits, Cereal derivatives and dried legumes. PL 11 - Commercial fats Canned. Alcoholic and non-alcoholic beverages PL 12 - Food survey. in communities PL 13 Methods and techniques for assessing the physical development of the child. Methodology for assessing the level of neuro-psychic development by age groups. Activity and rest regime of children and adolescents PL 14 - Health surveillance In communities: epidemiological triage, periodic examinations, balance examinations, Dispensary of chronic diseases in children and young people.		

Recent bibliography:

1. Guideline: Sugars intake for adults and children. Geneva: World Health Organization; 2015.
2. Guideline: Sodium intake for adults and children. Geneva: World Health Organization; 2012.
3. Comprehensive implementation plan on maternal, infant and young child nutrition. Geneva: World Health Organization; 2014.
4. Global action plan for the prevention and control of NCDs 2013–2020. Geneva: World Health Organization; 2013.
5. Guideline: Potassium intake for adults and children. Geneva: World Health Organization; 2012.
6. Mozaffarian D, Fahimi S, Singh GM, Micha R, Khatibzadeh S, Engell RE et al. Global sodium consumption and death from cardiovascular causes. N Engl J Med.371(7):624–34. 2014.

7. Te Morenga LA, Howatson A, Jones RM, Mann J. Dietary sugars and cardiometabolic risk: systematic review and meta-analyses of randomized controlled trials of the effects on blood pressure and lipids. AJCN.100(1): 65–79. 2014.
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9. Rome Declaration on Nutrition. Second International Conference on Nutrition. Rome: Food and Agriculture Organization of the United Nations/World Health Organization; 2014.
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11. Thirteenth general programme of work, 2019–2023. Geneva: World Health Organization; 2018.
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14. WHO, Air quality quideline; universal update, 2005,
15. WHO-IPCS, Dermal exposure, 2014,
16. WHO, Protecting health from climate changes , 2013,
17. WHO, Protecting health in Europe from climate changes , 2013,
18. WHO, Guideline: Sugars intake for adults and children, 2015,
19. WHO, Guideline: Potassium intake for adults and children, 2015,
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21. WHO, Child Growth Standards: Growth Velocity based on Weight, Length and Head Circumference, 2009,
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23. WHO, Vitamin and mineral requirements in human nutrition, 2005,
24. WHO, Water safety in distribution systems, 2014,
25. WHO, Crysotile asbestos, 2015,
26. WHO, Iodine and inorganic iodines: human health aspects, 2009,
27. WHO, Evaluation of certain contaminants in food, 2017.
28. Sue Soan,Eve Hutton,Universal Approaches to Support Children's Physical and Cognitive Development in the Early Years,1st Edition, ISBN 9780367265212, Routledge, 2020
29. Jennifer Paris,Antoinette Ricardo,Dawn Rymond,Alexa Johnson, Child Growth and Development, College of the Canyons, 2018
30. Moldoveanu A.M. (coordonare), IGIENA, Editura Universității „Carol Davila", București, 2018,
31. Weil, Andrew. Integrative Environmental Medicine. Eds. Cohen, Aly, and Frederick S. vom Saal. Oxford, UK: Oxford University Press,Oxford Medicine,2017.
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37. Committee on the Science of Children Birth to Age 8: Deepening and Broadening the Foundation for Success; Board on Children, Youth, and Families; Institute of Medicine; National Research Council; Allen LR, Kelly BB, editors. Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation. Washington (DC): National Academies Press (US); 2015 Jul 23. 4, Child Development and Early Learning.
38. Christine M Blue, Darby's Comprehensive Review of Dental Hygiene, 9th Edition, Elsevier, 2021
39. Olga A. C. Ibsen, Oral Pathology for the Dental Hygienist, 8th Edition, Elsevier, 2021.
40. Suzanne Noble, Clinical Textbook of Dental Hygiene and Therapy, 2nd Edition, Wiley-Blackwell, 2012.
41. Zohoori, F. Vida, The Impact of Nutrition and Diet on Oral Health, Monographs in Oral Science, Vol. 28, ISBN: 978-3-318-06516-9,Karger, 2020
42. Rebecca Sroda, Tonia Reinhard, Nutrition for Dental Health: A Guide for the Dental Professional, Enhanced Edition, Jones & Bartlett Learning, 2020.
43. Cynthia Stegeman, Judi Davis, The Dental Hygienist's Guide to Nutritional Care, 5th Edition,Elsevier.2018.

9. Assessment

Activity type	**9.1. Evaluation criteria**	**9.2. Evaluation methods**	**9.3. Percentage of final grade**
9.4. Lecture	Knowledge of the theoretical concepts of the subject.	Written exam with grid type – 30 questions: simple complement and grouped complement. .	100%
9.5. Practical classes/ seminar	Performing and evaluating the main practical laboratory methods.	Grid type assessment	Eliminator
9.5.1. Individual project (if any)	Applying the acquired concepts in the development of specific, individual projects	Practical exercises/project assessed with pass/fail	Optional
Minimum performance standard			
Minimum 51% of the score obtained on the written test that evaluates the knowledge taught in the course.			