

| Attachment no. 3 |  | Course program of the third cycle of studies                |    |                       |   |
|------------------|--|---|----|-----------------------|---|
| 1.               | Subject  | <b>PATHOPHYSIOLOGY, MODEL AND PROCESS OF NUTRITIVE CARE</b> |    |                       |   |
| 2.               | Code   | <b>ITHN - 04</b>  |    |                       |   |
| 3.               | Study Program  | <i>Innovative technologies for food and nutrition</i>       |    |                       |   |
| 4.               | Study Program organized  | Faculty of Technology and Technical Science- Veles          |    |                       |   |
| 5.               | Degree (first, second, third cycle)  | Phd   |    |                       |   |
| 6.               | Academic year/ semester  | 1 / I   | 7. | Number of EKT credits | 7 |
| 8.               | Professor  | Prof. d-r. Zora Uzunoska,                                   |    |                       |   |
| 9.               | Precondition for taking the subject  | Postgraduate studies completed                              |    |                       |   |
| 10.              | <p><b>Objectives/Competence:</b></p> <p>Based upon previous knowledge of Human Anatomy and Physiology, the student will upgrade his knowledge by studying the alteration of a certain structure (anatomy) and function (physiology), which have a negative impact on human health. The student will build a skill to combine etiology, pathogenesis, risk factors and clinical manifestations of diseases (with particular emphasis on nutrition-related issues) through implementation of nutritional care process at individual, group and population level. The student will be capable to use evidence-based approach, in order to promote nutritive health and suggest effective strategies for prevention of different diseases through behavioral changes (nutrition, physical activity and stress).</p> <p>The acquired knowledge of complex interaction between nutrition and disease allows doctors of nutritional science to develop a critical attitude towards theoretical, practical, literary data and research results, providing them with capacity for nutritional managing of the disease and expertise within their field of interest.</p> |   |    |                       |   |
| 11.              | <p><b>Program Content:</b></p> <p>Pathophysiological Mechanisms, i.e. alteration of:</p> <ul style="list-style-type: none"> <li>- Cell function and growth (cell alterations and neoplasm );</li> <li>- Body Defense (skin, mucous membranes, immune system);</li> <li>- Tissue oxygenation (heart failure obstructive blood vessel disease,</li> <li>- Restrictive and Obstructive Pulmonal Diseases;</li> <li>- Body fluids distribution (Edema, Nephritic Syndrome Hepatic Cirrhosis);</li> <li>- Gastrointestinal functions (duodenal and gastric ulcer and intestinal obstruction));</li> <li>- Endocrine function (Adrenocortical disfunction, Diabetes);</li> </ul>   |   |    |                       |   |

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|     | <ul style="list-style-type: none"> <li>- Urogenital function (Uterine bleeding, inflammatory pelvic disease, obstructive uropathy);</li> <li>- Neural function (Meningitis);</li> <li>- Genetic alterations; and</li> </ul> <p>Clinical manifestations of above mentioned diseases.</p> |  |  |               |
| 12. | Methods of learning: audiovisual  |  |  |               |
| 13. | Time fund   | 7 x 30 = 210 hours                                 |  |               |
| 14. | Time distribution   | 60+40+50+30+30 = 210                               |  |               |
| 15. | Teaching activities   | 15.1.  | Lectures - Theory                                  | 60 hours      |
|     |   | 15.2.  | Exercises (Laboratory, audio), Seminars, Team work | 40 hours      |
| 16. | Other forms of activities   | 16.1.  | Projects   | 50 hours      |
|     |   | 16.2.  | Independent tasks                                  | 30 hours      |
|     |   | 16.3.  | Home learning                                      | 30 hours      |
| 17. | Way of estimation the results   |  |  |               |
|     | 17.1.   | Tests/oral exam                                    | 80 points  |               |
|     | 17.2.   | Seminars/ Project (presentation: written and oral) | 10 points  |               |
|     | 17.3.   | Activity/Participation in discussions              | 10 points  |               |
| 18. | Evaluation Criteria (points/ grades)  | Up to 50points                                     |  | 5 (five) (F)  |
|     |   | From 51 to 60 points                               |  | 6 (six) (E)   |
|     |   | From 61 to 70 points                               |  | 7 (seven) (D) |
|     |   | From 71 to 80 points                               |  | 8 (eight) (C) |

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|     |                                      | From 81 to 90 points  | 9 (nine) (B) |
|     |                                      | From 91 to 100 points | 10 (ten) (A) |
| 19. | Precondition for going to final exam | Seminar               |              |
| 20. | Language of teaching                 | Macedonian, English   |              |
|     |                                      |                       |              |

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| 22.   | Literature            |   |   |   |                    |
|       | Compulsory literature |   |   |   |                    |
|       | Number                | Author  | Title   | Publisher   | Year of publishing |
| 22.1. | 1.                    | <u>Marcia Nelms,</u><br><u>Kathryn P. Sucher,</u><br><u>Karen Lacey, Sara</u><br><u>Long Roth</u> | Nutrition Therapy and Pathophysiology 2 <sup>nd</sup> ed. ISBN-1439049629, 978-1439049624                                       | <a href="http://scholarworks.sjsu.edu/faculty_books/28">http://scholarworks.sjsu.edu/faculty_books/28</a><br>Cengage learning | 2011               |
|       | 2.                    | Lee Ellen C Copstead Kirkhorn   | Patophysiology 5 <sup>th</sup> ed. ISBN: 1455726508<br>ISBN13: 9781455726509  | Saunders  | 2013               |
|       | 3.                    | Fuad Ibrahim, Mengistu Welday   | Patophysiology  | USAID   | 2008               |
|       | 4.                    | The Academy of Nutrition and Dietetics  | Academy International Nutrition Care Process and Medical Nutrition Therapy  | <a href="http://ncpt.webauthor.com/">http://ncpt.webauthor.com/</a>   |                    |
|       | 5.                    | The Academy of Nutrition and Dietetics  | International Dietetics & Nutrition Terminology (IDNT) Reference Manual, Standardized Language for the Nutrition Care Process 2 | The Academy of Nutrition and Dietetic<br>ISBN-13: 978-0880914673.<br>4th Edition, 2012.                                       | 2012               |
|       | 6.                    | European Commission   | International Dietetics & Nutrition Terminology (IDNT)  | <a href="http://ec.europa.eu/health/">http://ec.europa.eu/health/</a>   |                    |

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|--|----|---------------------------|--|----------------------|------|
|  |    |                           | Reference Manual, Standardized Language for the Nutrition Care Process                     |                      |      |
|  | 7. | World Health Organization | Health, functioning, and disability in older adults-present status and future implications | Elsevier Ltd/Inc/BV. | 2014 |

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|-------|-----------------------|--|--|---|--------------------|
|       | 8.                    | European Commission/DG Sanco projects: EUNAAPA and PASEO | The European Network for Action on Ageing and Physical Activity! | <a href="http://www.eunaapa.org/">http://www.eunaapa.org/</a>               | 2006-2014          |
| 22.2. | Additional literature |  |  |   |                    |
|       | Number                | Author   | Title  | Publisher   | Year of publishing |
|       | 1.                    | Вера Симовска  | Угоеност и потхранетост  | Ун. Св. Климент Охридски Битола, Технолошко технички факултет-Велес. Менора | 2014               |
|       | 2.                    | Зора Узуноска  | Основи на хумана анатомија<br>ISBN 608472174-5                   | Полица, Скопје  | 2014               |
|       | 3.                    |  |  |   |                    |