SUBJECT TEACHING GUIDE (SYLABUS)

NAME OF THE UNIT CONDUCTING THE DIRECTION:
Department of Biomedicine and Experimental Surgery, Department of Endocrinology, Medical University of Lodz.

EDUCATION PROFILE: General Academic

LEVEL OF EDUCATION: 3 Degree (Doctoral School)

1. **Subject Name:** Bioactive food components and their importance in human health

2. **Type of subject:** Optional.

3. **Course Objectives:** Acquire a basic knowledge of the health-promoting properties of a variety of foods.

4. **Form of study:** Doctoral School

5. **Year of study: -**

6. **Form of classes and number of hours for each form of classes:** Optional classes (seminars) - either stationary or remote (to be determined with PhD students) - 10 hours.

7. **Name and surname of the lecturer:**
   Karol Kłosiński, PhD, Paula Zdanowicz, PhD, Zbigniew Pasieka, PhD, MD, prof. MUL

8. **Teaching methods:**
   Verbal transmission, multimedia presentations, demonstrations, case-study method.

9. **Scope:**
   - Concept and classification of bioactive food components and functional foods
   - Major groups of bioactive compounds of plant origin: polyphenols, carotenoids, phytosterols, glucosinolates and other phytochemicals
   - Dietary fibre, prebiotics, probiotics and fermented foods as modulators of human health
   - Bioavailability, metabolism and food matrix effects of bioactive compounds
   - Oxidative stress, inflammation and other molecular mechanisms involved in the biological activity of food components
   - From in vitro studies to clinical evidence: experimental models used in the evaluation of bioactive food components
   - Critical assessment of scientific evidence concerning health effects of foods and food-derived compounds
   - Functional foods, dietary supplements and medicinal products – similarities, differences and regulatory aspects

- Safety of bioactive food components: dose-response relationships, interactions and potential adverse effects
- Influence of food processing, preservation and storage on the stability and biological activity of health-promoting compounds
- Current trends in functional food research and development
- Design and interpretation of research on bioactive food components

10. Learning outcomes

Knowledge: Acquisition of theoretical and practical knowledge of the health-promoting properties of foods**.**

Skills: Acquisition of the ability to recognise and classify the different health-promoting properties of foods.

Social competences: Ability to communicate knowledge of health-promoting foods.

11. List of primary literature:

'Pro-health food: Ingredients and Technology'; Author: Czapski Janusz (ed.), Górecka Danuta; Publishing House of the University of Life Sciences in Poznań, 2015

12. Methods and ways of verification of learning outcomes, including the form and conditions for passing the course: Credit for the course is awarded on the basis of attendance and activity in class. Attendance at a minimum of 50% of classes is required to receive positive credit.

13. Additional Information:

- **Contact information to the lecturer:** Karol Kłosiński, karol.klosinski@umed.lodz.pl; 427275318.
- **Class dates:** To be determined with PhD students

14. Statement of the leader and his signature:

I declare that the curricular content contained in this syllabus is the result of my individual creative work performed within the framework of an employment/collaborative relationship arising from a civil law contract, and that no third parties are entitled to copyright on this account.

15. Signature of the Director of the Doctoral School:

16. Date: