

Course title: FOOD CHEMISTRY

ECTS credit allocation (and other scores): 3

Semester: autumn

Level of study: ISCED-6 - first-cycle programmes (EQF-6)

Branch of science: Medical and health sciences

Language: English

Number of hours per semester: 60 (30 lectures and 30 classes)

Course coordinator/ Department and e-mail: Joanna Klepacka/Department of Commodity Science and Food Analysis,  
e-mail: klepak@uwm.edu.pl

Type of classes: classes and lectures

---

#### Substantive content

**CLASSES:** Examination of the selected ingredients content in raw materials and food products using characteristic reactions and quantitative methods for their evaluation (laboratory observation of the properties and characteristic reactions of such components as: water, minerals, sugars, proteins, lipids and vitamins). Analyzing, interpreting and anticipating changes taking place in selected food products under the influence of technology treatment and storage processes and their impact on food quality.

**LECTURES:** Characteristics of the basic ingredients found in food: saccharides, proteins and lipids and selected minerals and vitamins. Changes in raw materials and food products during technological processes and food storage. The role of water in shaping the appropriate shelf life of food. Food composition and the acid-base balance of the body. The role of fatty acids in shaping the health-promoting features of food. Mechanism and methods of preventing lipid spoilage processes. Biologically active compounds and functional food. Food additives and contaminants.

**Learning purpose:** Familiarize with food chemical composition, impact of changes and interaction of food ingredients on its quality, durability and safety.

---

On completion of the study programme the graduate will gain:

**Knowledge:** understanding the features of food ingredients and their changes during technological treatment

**Skills:** anticipating and assessing changes in food quality under the influence of various factors

**Social Competencies:** constantly improve professional qualifications and can critically evaluate his knowledge

---

**Basic literature:** H.D. Belitz, W. Grosch, P. Schieberle. Food Chemistry – 4<sup>th</sup> revised and extended edition. Springer-Verlag Berlin Heidelberg 2009. DOI 10.1007/978-3-540-69934-7, ISBN 978-3-540-69933-0, e-ISBN 978-3-540-69934-7

**Supplementary literature:** articles and materials provided by the teacher

---

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 60

Student's independent work: 35