UNIWERSYTET GDAŃSKI

Course title
Wykład dyplomowy - Chemia a społeczeństwo/Community and chemistry

ECTS code
13.3.0592

Name of unit administrating study

Faculty of Chemistry

Studies

Field of study	Type	Form	
Chemistry	Bachelor	Full-time studies	

Teaching staff
Prof. dr hab. inż. Marek Kwiatkowski

Forms of classes, the realization and number of hours

A. Forms of classes, in accordance with the UG Rector's regulations
lecture

B. The realization of activities
In-class learning

C. Number of hours
lecture 30 h

ECTS credits

lecture 30 h
tutorial classes 5 h
student's own work 15 h
TOTAL: 50 h - 2 ECTS

The academic cycle
Third year, summer semester

Type of course
obligatory

Language of instruction
Polish

Teaching methods
Lecture with a multimedial presentation

Form and method of assessment and basic criteria for evaluation or examination requirements

A. Final evaluation, in accordance with the UG study regulations
Course completion (with a grade)

B. Assessment methods Two multiple choice tests, one in the middle and one at the end of the semester.

The basic criteria for evaluation

More than 50% points from every test.

Required courses and introductory requirements

A. Formal requirements none

B. Prerequisites General Chemistry, Inorganic Chemistry, Organic Chemistry, Physical Chemistry.

Aims of education
To explain the students how the acquired chemistry knowledge is related to phenomena and problems they know from their personal experience and knowledge about the contemporary world.

Course contents

Chemistry of foodstuffs and cooking. Water – properties, natural waters, composition and properties of common drinks. Alcoholic beverages and stimulants – properties, chemistry, preparation. Chemistry of cleaning agents and cosmetics. Chemistry in agriculture: soil, fertilizers, pesticides. Chemical industry: manufacturing of bulk chemicals, raw material sources, economics of chemical production. Production of energy, fossil fuels. Elements of evironmental chemistry.

Bibliography of literature

A. **Literature required to pass the course** 1. M. M. Jones, D. O. Johnston, J. T. Neterville, J. M. Wood, M. D. Joesten "Chemistry and Society", Saunders College Publishing, Philadelphia 1987.
2. K. Waldron "The Chemistry of Everything", Pearson/Prentice Hall, Upper Saddle River 2007.
3. Handouts prepared by the author.

B. **Extracurricular readings**

Knowledge

Lists main and components of foodstuffs, beverages, stimulants, cleaning agents and cosmetics, reflects on their function, describes their chemical and biochemical transformations. Describes the role of chemistry in agriculture, manufacturing industry and energy production. Reflects on impact of chemistry on the development of civilization as well as on the natural environment.

Skills

Predicts the relationship between the molecular structure of chemicals and their properties and potential application, explaining the use of particular components in foodstufs, beverages, stimulants, cleaning agents and cosmetics. Using professional terminology, argues how the energy production, chemical industry and agriculture affect the world, showing the advantages and disadvantages.

Social competence

Appreciates the necessity to understand how chemistry affects our everyday life. Finds this relationship as important in teaching process.