Level: master

Course title: TEACHING CHEMISTRY TO GIFTED STUDENTS

Status: elective

ECTS: 7

Requirements: none

Learning objectives

Enabling chemistry students for care and work with the gifted.

Learning outcomes

After successful completion of the course, a student is able to:

1. define and distinguishes giftedness and talent, as well as giftedness levels,
2. efficiently and reliably apply practical procedures in identification of chemistry-gifted students using subjective and objective instruments,
3. demonstrate systematic knowledge on teaching strategies for gifted, and pedagogical implications of these strategies,
4. creatively plan and responsibly apply individualized teaching strategies in chemistry education, adjusted to cognitive, affective and social needs of gifted students,
5. apply taxonomy of educational goals and tasks in design of differentiated chemistry curricula for working with gifted students in regular and special classes.
6. demonstrate oral and written communication skills with professionals in other scientific disciplines,
7. express initiative, personal responsibility and ability to make decisions in unexpected and complex situations.

Syllabus

Theoretical instruction:

Giftedness and talent. Gagne's model of giftedness – personal factors and extrapersonal catalysts. Other theories of giftedness (Tannenbaum, Renzouli, Garder – multiple intelligence). Cognitive, affective and social characteristics of the gifted students. Objective and subjective instruments for the identification of the gifted. Giftedness for chemistry. Education of the gifted. Strategies of teaching gifted students. Differentiated curricula for the gifted. Taxonomy of educational goals in teaching of the gifted.

Practical instruction:

Identification of the gifted students - case studies. Selection of the best strategy in teaching a student gifted for chemistry – case study. Design of the model for partially homogenized grouping of students gifted for chemistry. Horizontal and vertical enrichment of chemical educational content in work with the gifted. Design of problems for the gifted according to Bloom's and Kraethwol's taxonomy of educational goals.

Weekly teaching load				Other:
Lectures: 3	Exercises: 2	Other forms of teaching:	Student research:	