

Course description

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| Course abbreviation: | KCH/ITECH | Page: | 1 / 2 |
| Course name: | Information and Communication Technology | | |
| Academic Year: | 2016/2017 | Printed: | 20.09.2017 18:34 |

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|---|---|-------------------------------|-----------------|
| Department/Unit / | KCH / ITECH | Academic Year | 2016/2017 |
| Title | Information and Communication Technology | Type of completion | Pre-Exam Credit |
| Long Title | Information and Communication Technology in Chemistry | | |
| Accredited/Credits | Yes, 2 Cred. | Type of completion | Oral |
| Number of hours | Přednáška 1 [Hours/Week] Seminář 1 [Hours/Week] | | |
| Occ/max | Status A Status B Status C | Course credit prior to | NO |
| Summer semester | 0 / - 8 / - 0 / 0 | Counted into average | NO |
| Winter semester | 0 / - 0 / - 0 / - | Min. (B+C) students | not determined |
| Timetable | Yes | Repeated registration | NO |
| Language of instruction | Czech | Semester taught | Summer semester |
| Substituted course | None | | |
| Preclusive courses | N/A | | |
| Prerequisite | N/A | | |
| Informally recommended courses | N/A | | |
| Courses depending on this Course | N/A | | |

Course objectives:

The course introduces students to the possibilities of using ICT in chemistry.

Requirements on student

Suited to processing continuous orders and projects, including preparation of laboratory protocols.

Evaluation of the subject as well as the exam grading is made according to the articles No 31 - 33 in the Regulations on Study and Examinations University of Ostrava

Content

Key thematic areas:

1. Internet for Chemists - information retrieval, selected services and resources.
2. ICT and database systems in chemistry.
3. Selected 2D and 3D software for modeling and presentation of chemical formulas.
4. Overview of the basic possibilities of using ICT in chemistry to create documents, presentations and data processing.
5. Computer-aided chemical experiment.

Prerequisites - other information about course preconditions

none

Competences acquired

Competences

Extending of knowledge and skills at the work with the basic application software (MS Office), skill of work with the basic software for the chemical formulas presentation, skill of looking up information in the basic chemical information sources.

Studijní opory

Guarantors and lecturers

- **Guarantors:** Mgr. Martin Mucha, Ph.D.

- **Lecturer:** Mgr. Martin Mucha, Ph.D.
- **Seminar lecturer:** Mgr. Martin Mucha, Ph.D.

Literature

- **Basic:** KRIČFALUŠI, D. *ICT v chemii (studijní opora)*.
- **Recommended:** KLÁN, P., MINDL, J., ŠTĚDRÝ, A., RUBEŠOVÁ, E. *Chemická informatika. Úvod do používání Internetu*.
- **Recommended:** JINDŘICH, J. *Chemické databáze na Internetu a jejich používání*.
- **Recommended:** KLOUDA, P. *Chemie na počítači. Ostrava : Pavel Klouda, 2001..*
- **Recommended:** ZMEŠKAL, O. a kol. *Informační technologie v chemické praxi..*
- **Recommended:** *Manuál k systému IP-COACH.*
- **Recommended:** *Manuál k systému ISES.*

Time requirements

| Activities | Time requirements for activity [h] |
|--|------------------------------------|
| Being present in classes | 26 |
| Continuous tasks completion (incl. correspondence tasks) | 14 |
| Self-tutoring | 6 |
| Consultation of work with the teacher/tutor (incl. electronic) | 4 |
| Total: | 50 |

assessment methods

professional knowledge

Continuous analysis of student's achievements

prerequisite

professional knowledge

none

teaching methods

professional knowledge

Dialogic (discussion, dialogue, brainstorming)

Monologic (explanation, lecture, briefing)

Projection (static, dynamic)

Working with text (coursebook, book)

learning outcomes

professional knowledge

Competences

Extending of knowledge and skills at the work with the basic application software (MS Office), skill of work with the basic software for the chemical formulas presentation, skill of looking up information in the basic chemical information sources.

Course is included in study programmes:

| Study Programme | Type of | Form of | Branch | Stage | St. plan v. | Year | Block | Status | R.year | R. |
|-----------------|----------|-----------|-----------|-------|-------------|------|----------------------------|--------|--------|----|
| Chemistry | Bachelor | Full-time | Chemistry | 1 | 2012 | 2016 | Povinně volitelné předměty | B | 2 | LS |